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"THE STATUS OF BRAIN IN THE CONCEPT OF MIND"[1]

PROFESSOR SIR HENRY COHEN, M.D., LL.D., F.R.C.P.

IT is with no feigned modesty that I acknowledge, as a limited and superficial student of philosophy, the honour you have done me by your invitation to deliver the Manson Lecture. But if the honour is undeserved, it is by fortuitous circumstance the more appreciated. Dr. Manson was a family doctor in Warrington, Lancs., with whom I was privileged to have close professional associations. He was a man of many parts who regarded the isolation of medicine from philosophy as an unintelligible and lamentable phenomenon of our time. He wished to see philosophy restored to its earlier and rightful basic rôle in medical education. He recognized that medicine and, indeed, the cognate basic sciences were occupying themselves almost exclusively with so rapidly accelerating an accumulation of facts, that little time remained for reflection and interpretation, and for pondering on the place of medicine in, and its contribution to, the general corpus of knowledge. And he was especially interested in the topic which I have chosen for this commemorative lecture, for he recognized, and translated into practice, the dictum that "No disease is wholly physical, and none wholly mental." He saw in his patient the "whole" man, not a summation of such isolates as body, mind, environment, and family.

The topic of my choice—the brain-mind problem—presents itself to the doctor in a special way, which tends at the outset to prejudice him against any form of dualism. The physician sees, for example, a patient whose memory is slowly becoming clouded, who cannot recall what happened an hour or two earlier though his childhood may be

[1] Manson Lecture. Delivered at The Royal Institute of Philosophy, University Hall, 14 Gordon Square, on October 12, 1951.

clear, who cannot concentrate on the written word or tot up the simplest sum. A tumour is removed from the frontal part of the patient's brain and his memory and thoughts return to normal. Or a patient is excitable and elated, morally unrestrained, convinced that he is a millionaire, dissipating his wealth irrationally; he is found to be suffering from a form of general paralysis which responds to treatment with malaria, and penicillin and arsenic. Or a child victim of lethargic encephalitis who though well behaved before the illness subsequently shows gross loss of moral control, becomes pugnacious and violent, indulges in petty thieving, truancy from school, indecent exposure and sexual aberrations of the most depraved form.

Indeed, experience soon teaches us that there is no accepted attribute of mind such as purpose, reasoning, thought, memories, feeling, willing, which cannot be disturbed by brain disease, that there are no abnormalities of mind whose special features allow associated brain disease to be excluded. There is, that is to say, no way of excluding the presence of cerebral pathology from the most exact appraisal of mental symptoms alone, be they defects of memory, of concentration or feeling, hallucinations, illusions or delusions, or a host of other manifestations of disease which we label "mental." Yet in other examples of dualism, it is possible to make the appropriate differentiation if sufficient is known of either partner.

Let us consider a commonly used analogy of the duality of brain and mind, that of instrument and performer. Defects in melody may result from defects in the instrument or in the performer. For example, a series of scales is played on a piano with the right hand, and the note G above middle C is never heard; we infer that this note is defective. But on another piano and with another performer a different fault appears. Here when the scale of C major is played the notes E and A are silent; when the scale of G major is played the notes B and E are unheard; and with all other scales the third and sixth notes of the scale are dead. Yet during the course of playing all the scales, every note of the piano will be heard, so that we know the piano is intact and that the melodic fault springs from the performer. If we know the method of using the fingers in playing a scale, viz. + 1 2 + 1 2 3 4, we can infer that the defect lies in the middle finger of the right hand. Thus a knowledge of the separate and specific attributes of instrument and performer enables us to say in which of them a defect will be found and what is its nature. If brain is the machine and mind "the ghost in the machine" then, though medicine has infinite experience of defects attributable to the machine, there is no specific attribute or mode of functioning of the "ghost" by which we can recognize its misdeeds. Neuropathology lends no support to Bergson's assertion that there is "more thought in man than could be harboured by the brain," for there is *no* thought in man that

cannot be disturbed or destroyed by disturbance or destruction of brain.

This I concede is a negative approach, and admittedly fallacies flow from confusing symptoms resulting from disease, and normal function, so that it may still be objected that none of the evidence adduced from neuropathology justifies the positive affirmation that brain elaborates thought. I shall deal with this topic later. All that I am at present suggesting is that this evidence does not support a dualism in which brain and mind have identifiably separate qualities or attributes.

There is another contribution which the history of disease can make to our problem. Amongst the earliest concepts of disease was that of an evil spirit entering the body and exercising its malevolence therein. This evilly disposed "ghost" had to be exorcised by amulets and incantations, and its escape facilitated by boring holes in the skull (trepanning). The ill person was A (himself) + B (the "disease"). Even when the spectral origin of B had been forgotten, the idea of the "disease" B as a clinical entity, a substantial essence with an independent existence persisted, and diseases were by Sydenham "to be reduced to certain and determinate kinds with the same exactness as we see it done by botanic writers in their treatises of plants." Only in recent times has it been widely recognized that, however convenient may be a category of "diseases," they have no separate self-subsistence but are simply abstractions from experience.

Is not a more ancient hypostatization of abstractions or isolates the father of all subsequent dualism of body, and mind or spirit or soul? The historical background of dualism and the changing idea of the nature of the soul or mind[1] lend support to this view. For primitive man, the "soul" of anything—man, animal, rock or river—was simply its mental image. Through the synthesis of Dionysiac, Pythagorean, and Ionian ideas came the Socratic concept of the twofold nature of man, of man as a mass of bone and sinews—a dead carcass—activated by a living spirit.[2] The Cartesian contribution to the dualistic idea was two-fold. Descartes not only planned to relate the soul to a distinct region of the brain, thus giving impetus though not birth to the concept of "cerebral localization," but insisted on the machine-like reflex activity of the body; and for him animals were machines without souls. Whatever modifications have later been introduced into this concept, it is the basic assumptions of Cartesian dualism which are still deeply rooted in contemporary popular and

[1] For the development of this theme see Crawley, A. E. *The Idea of the Soul*, London, 1909; and Ellis, W. *The Idea of the Soul In Western Philosophy and Science*, London, 1940.

[2] See Burnet, J. *The Socratic Doctrine of the Soul*, in *Proceedings of the British Academy*, 1916.

"scientific" thought, and are by no means absent from the present philosophical outlook. Have we not Gilbert Ryle's[1] confession that he has himself been a victim of most of the assumptions of the Cartesian myth, and that his "Concept of Mind" is primarily a self-prescribed cathartic?

The modern doctrine of Cartesianism which Ryle describes as the "official theory" may be fairly stated thus: A human being is made up of body and mind. His body is material; it can be observed by himself and by external observers; it is said to be known perceptively, and though the earlier vitalists would have denied that it obeys the laws of physics and chemistry—the mechanical laws which govern all other bodies in the universe—all but the most die-hard would now be prepared to concede that sooner or later this may be demonstrable. And so the processes of digestion, the circulation of the blood, the action of the lungs, and the electrical activity of the brain are accepted as proper subjects for physico-chemical investigation, though it is not always appreciated that the answers given to our questions will be in terms of the instruments we use in our investigations. If we explore the brain we shall find brain; if the instrument employed measures electrical charges, our answers will be in terms of electrical charges; if we stimulate the cortex of the brain with an electrical current, our answers will be given in terms of electrical stimulation of the cortex and not, as is too often believed, in terms of normal functioning of the cerebral cortex. It is well, because of the latest expansion of our theme, that this "operational" view of measurement should have been restated recently by Dingle,[2] Bridgman[3] and Walshe.[4] It is not novel, however. Eddington[5] dealt with the problem under the title "Selective Subjectivism," pointing to the consequences of arriving at the generalization that no sea-creature is less than two-inches long, from exploring the ocean with a net of two-inch mesh.

In contrast to the body is the mind, which is not in space and not subject to mechanical laws; its career is private; it can only be known, introspectively, by the organism itself. It is responsible for consciousness, for thoughts, perceptions and feelings, for remembering and imagining, for willing and for directing purposive and intelligent actions.

Let us consider the eating of an unripe plum. We taste it; changes occur in the afferent nerves of taste and pass to the brain; an act of "volition" occurs and the plum is spat out. Now the mechanisms of

1 Ryle, G., *The Concept of Mind*, London, 1950, p. 9.

2 Dingle, H., *The British Journal for the Philosophy of Science*, 1950, 1, 5.

3 Bridgman, P. W., (*a*) *ibid.*, 1951, **1**, 257; (*b*) *ibid.*, 1951, **2**, 25; (*c*) *ibid.*, 1951, **2**, 142.

4 Walshe, F. M. R., *Brain*, 1951, 74, 249.

5 Eddington, A., *The Philosophy of Physical Science*, Cambridge, 1939.

entry to and exit from the brain have been greatly elucidated in recent years.[1] But changes in the brain corresponding to the act of so-called "volition" remain unmasked—the self "tasting" the plum, its appraisal, and the memory of plums properly eaten. These have not yet been recorded although it could reasonably be expected, in view of recent developments in electroencephalography, that sooner or later electrical changes will be found associated with this act of "volition"; and in general, it cannot on physical grounds be regarded as impossible that with sufficient knowledge a complete explanation of the electrical activities of the brain might reveal what a person is thinking and, indeed, might foretell his actions. All this might well be conceded by the dualist without surrendering his faith, for he could still justifiably hold that the individual is dichotomized into the physico-chemical (body) and the psychical (mind) and that consciousness is something immaterial which is fitted on to or caps the apex of the reflex arc, however complicated this arc may be.

Then for him emerges the enigma, how do brain and psyche interact?

To Broad's seventeen alternative possible theories,[2] the ingenious, imaginative and painstaking can add many more to make confusion worse confounded. In the context of my present theme, they are as irrelevant, and in my view as untenable on rational grounds, as is the division of the universe into physical and perceptive, into noumenal and phenomenal aspects. But two recent and novel approaches to the problem, though based I shall submit on invalid data, merit mention.

Russell Brain[3] has asked the question: "Are there functions of the nervous system which are at the same time both physiological (or physical) and psychological?" and he hazards a guess that the answer might be found in speech and thought. If I understand him aright, he maintains that the power to "abstract" is both physical and mental. The word "dog" may be uttered in different ways, sung or spoken with differing pitch or intensity yet it has a pattern which can be "abstracted" in the same way that triangularity can be abstracted. An appropriate stimulus might recall a pattern otherwise lost, as, for example, in some aphasias where the patient cannot spontaneously recall a name, but rejects the wrong name and accepts the correct name when he hears it, or it might conjure up innumerable cognate images on hearing such a phrase as "St. Paul's Cathedral." But is there in essence any closer physico-psychical relationship, although it may be more complex, in abstraction than in perception? Moreover, as I shall later instance, there is no insuperable obstacle to the power of abstraction being a property of "machines."

[1] The results can be learnt from Adrian, E. D., *The Physical Background of Perception*, Oxford, 1947, and his later papers.

[2] Broad, C. D., *The Mind and its Place in Nature*, London, 1925, p. 609.

[3] Brain, W. R., in *The Physical Basis of Mind*, Oxford, 1950, p. 47.

J. C. Eccles[1] has recently suggested yet another solution to the body-mind problem as commonly posed. He enumerates four hypotheses as a prelude to his proffered solution. These are:

(1) The liaison of body and mind occurs primarily in the cerebral cortex, though diencephalic centres may be also concerned, especially as activity in the cerebral cortex is sustained by a continued bombardment by impulses arising from these centres.

(2) Only when the electroencephalogram reveals a high level of cortical activity is liaison with mind possible. If this activity is lowered by drugs, anaesthetics, anoxia, injury or sleep, unconsciousness supervenes. Dreams are associated with demonstrable bursts of cortical activity.

(3) A specific spatio-temporal pattern of neuronal activity in the cortex determines the uniqueness of each percept; when this pattern of activity occurs it evokes a specific thought pattern.

(4) Memory is dependent on the development and persistence of increased excitatory efficacy across certain synaptic junctions. The structure of the brain with its 10^{10} neurones and the almost infinite number of patterns of neuronal activity which they can form allows for millions of neurones to be used in the recollection of any memory, and this may be evoked by a stimulus which activates every part of the pattern. Eccles' own experimental work has shown that activation of monosynaptic paths in the spinal cord leads to prolonged increase for hours and possibly days in the excitatory efficacy of synaptic knobs rendered specially sensitive by disease. He, therefore, postulates that "the initial development of effectiveness in certain synaptic junctions is a sequel to the primal event that is remembered, and this effectiveness is sustained and even enhanced by each subsequent replaying in the brain (and remembering in the mind)."

Eccles appreciates that all four statements belong to a psychophysical parallelism and not to interaction. They indicate that liaison with mind occurs only in special states of the brain, but "is there," asks Eccles, "any special property of this matter-energy system of the human cerebral cortex which places it in a separate category from all the remainder of the matter-energy or physical world and even from its own matter-energy system when it is not in this special state of activity?" For the detailed answer which he proposes for this question the original paper must be read but, in summary, Eccles contends that a special property is exhibited in outstanding measure by the cerebral cortex during consciousness; that by this

[1] Eccles, J. C., *Nature*, 1951, 168, p. 53.

means the brain enters into liaison with the mind, having the property of a "detector" that has a sensitivity of a different kind from that of any physical instrument. For, he says, consider the neuronal network of the cortex and its complexity, and how the discharge of even one neurone brings into activity vast numbers of neurones within a few milliseconds. No physical instrument, he asserts, could achieve this postulated performance of the active cerebral cortex. For him, mind achieves liaison with the brain by exerting spatio-temporal "fields of influence" that become effective through this unique detector function of the active cerebral cortex. He uses this hypothesis to explain the failure of mind-brain liaison when the electroencephalogram reveals depressed cortical activity (when the small number of neurones at the critical level of excitability prevent adequate spreading of the pattern); the loss of consciousness in the stereotyped rhythms of epilepsy; and the continuance of mind when large portions of brain are destroyed. And with a topicality which endears, he sees in his hypothesis a tenable explanation of the phenomena of extra-sensory perception and of psychokinesis.

I have dealt in some detail with Eccles' views partly because they seek to utilize all that has been learnt most recently of the electrophysiology of the cerebral cortex, and partly because they serve to illustrate two fallacies which are to be found in so many contributions to the study of the body-mind relationship.

The first is an assertion not a proof of impossibility. Eccles claims that "no physical instrument would bear comparison with the postulated performance of the active cerebral cortex as a detector of minute 'fields of influence' spread over a microscopic pattern and with temporal sequences of milliseconds." I shall deal in a moment or two with the baneful historical record of disastrous prognostication which has been linked with assertions of impossibility in this and related fields.

The second fallacy lies in a misunderstanding of what is implied by the problem. The mechanist asserts that the exploration of the physico-chemical constitution of the organism will reveal nothing that is not physico-chemical. Now Eccles adopts the vitalist position and asserts that in exploring the physico-chemical nature of the organism he has found something which is not physico-chemical, namely, mind or psyche; such a view is by the nature of his method and his results wholly unacceptable. All the evidence he adduces, though it throws light on the physical substratum leaves the bridging of the gap, as he postulates it, as refractory as before.

But what has pure, indisputable mechanism to offer in view of recent progress? Many earlier models of levers, clocks and magnets were designed which showed that machines can be made to work like organisms, though there was no evidence that the organism worked

like the machine.[1] An intriguing example of the more sophisticated type was the Heliotropic Machine of J. H. Hammond, an outcome of Loeb's theory of tropisms. This was a box on wheels provided with selenium cells and a steering gear. The selenium cells, representing the eyes of the insect, control the steering gear through relays, thus reproducing the effect of the light-controlled "tone" of the leg muscles of the insect. This machine could be stopped and started by an external source of light and would follow a moving light through a devious path. No one suggested that the insect used a mechanism akin to the selenium cell in its heliotropism, so no danger of reciprocal analogy arose.

The development of electronic calculating machines during World War II was, however, of another order, for they appeared to reproduce many of the rational properties of "mind." These machines had to be fed with information, and to store in some form the results of their preliminary calculations, a process analogous to memory; they had to make use of these results selectively and at the right time, analogous to recollection and choice; and they had to report their final results, analogous to communication. Such machines embodied the mechanism of "feed-back," which enables the machine to have a goal-directed activity, analogous to purpose and control. A false emphasis has led to these machines being regarded as simply calculating, rather than computing. Recent developments suggest that it may be possible, as Shannon[2] has demonstrated, to programme a computer for playing chess against a human opponent, thus in principle engaging in logical dialogue. He lists among the further possibilities of such a mechanism:

(1) Machines for designing filters, equalizers, etc.
(2) Machines for designing relay and switching circuits.
(3) Machines which will handle the routing of telephone calls based on the individual circumstances rather than by fixed patterns.
(4) Machines for performing symbolic (non-numerical) mathematical operations.
(5) Machines capable of translating from one language to another.
(6) Machines for making strategic decisions in simplified military operations.
(7) Machines capable of orchestrating a melody.
(8) Machines capable of logical deduction.

[1] See Chapuis, A. and Gélis, E. *Le Monde des Automates*, Paris, 1927, and Chapuis, A. and Droz, E., *Les Automates, figures artificielles d'hommes et d'Animaux*, Neuchatel, 1949.

A popular article on "Robots which play games," by Stanley Byard appeared in *Science News*, 16 (Penguin), 1950.

[2] Shannon, C. E., *Philosophical Magazine*, 1950, 7th Series, **41**, 256.

These are all extensions and modifications of the numerical computer. They do not deal primarily with numbers; they exemplify procedures which involve general principles, something of the nature of judgment and considerable trial and error, rather than a strict unalterable computing process; and the answers the machine gives are not simply right or wrong but have a range of "quality" from the best down to the worst. Mackay[1] carries the potentialities further. He prefers the name "artefact" to "machine," because "machine" stands in popular usage for something essentially servile, whereas "artefact" in the sense of an artificial construct can be used without such bias. In addition to the field of physical variables outside the "artefact," the field of mathematical and other logical propositions, and a field including a human interlocutor, he widens the field of physical variables to include the artefact itself, thus paralleling the modes of activity we associate with *self* consciousness; and as Ashby's homeostat demonstrates, the artefact may be *self-repairing*.[2] Thus far the artefact has simulated memory, recollection, purpose, reaction to changes in its "universe" including itself, communication and reasoning deductively from premisses which can include the results of previous deductions and data on the relative success of different courses. These as Mackay points out raise no new issues; they are all consistent with the generally accepted principle that "any pattern of observable behaviour which can be specified in terms of unique and precisely-definable situations can in principle be imitated mechanically." But it is possible to enlarge the scope of the artefact by introducing a probabilistic reasoning-mechanism, one which is not of the "yes-or-no" proposition type but much less deterministic and inflexible, introducing the concept of probability and paralleling a rational mind in the same circumstances, thus evincing irrational human characteristics such as prejudice and preference, and showing originality, independence of opinion and the capacity to weigh evidence and to learn in more than one way. Mackay claims to have built such a self-guiding learning mechanism. With proper education (and we should perhaps recall that we have to educate the child) he asserts, "it is difficult to deny that such an artefact could be made to develop statistically consistent modes of behaviour which, in the human being we should describe as constituting a personality." Thus the earlier principle may be generalized into: "Any pattern of observable behaviour which can be defined *statistically* in terms of probable reactions to given situations, can in principle be shown in an artefact." Moreover, such an artefact may

[1] Mackay, D. M., *The British Journal for the Philosophy of Science*, 1951, **2**, 105.

[2] Ashby, W. R., in *Perspectives in Neuropsychiatry* ("The Cerebral Mechanisms of Intelligent Action"); London, 1950, p. 79.

theoretically be capable of abstraction, of recognizing universals. Pitts and McCulloch[1] have, in explanation, advanced their *passive* or *template hypothesis* which demands storing a typical sample of the pattern and subjecting incoming signals to a systematic series of transformations inverse to those under which the pattern is invariant. A second and more plausible analogy is the *scansion hypothesis* suggested by Craik[2] and developed by many others, which is based on the mode of recognition of a solid triangular figure used by a blindfold man, by moving his finger round the outline; and this depends upon defining the form of a geometrical figure by its "natural equation" (i.e. the equation specifying curvature as a function of distance along the periphery).[3] A statistical treatment of this problem leads Mackay to the assertion that an artefact is able to discover and recognize new invariants independent of prior instruction and to formulate hypotheses.

It is held by many, and this forms the basic hypothesis of *Cybernetics*,[4] that the properties of the artefacts developed in recent years provide the clue to the mechanisms of the brain. But, as I have earlier emphasized, to simulate or imitate processes of the "mind" by artefacts is not necessarily to apprehend the mechanism of the brain. Before regarding such artefacts as even possible, let alone probable, models of cerebral activity, we must be able to show that the changes occurring in the brain related to "mental" processes are identical with those taking place in the artefact when it reproduces phenomena which we have hitherto associated with "thought" or other mental attributes.

It must be admitted that the evidence in support of this correlation is slender and often naïvely misleading, for direct investigations of the electrical changes in the brain which might accompany sensation and action are few. They stem from the electroencephalographic studies of Berger and have been largely developed by Adrian[5] who showed that the rhythms of a flickering light can be recorded as changes in electrical potential in the occipital region, and more recently Dawson[6] and others have shown the same sort of cortical response in the sensory area to electric stimulation of sensory nerves

[1] McCulloch, W. S. and Pitts, W. (*a*) *Bulletin of Mathematical Biophysics*, 1943, **5**, 115. (*b*) *Bulletin of Mathematical Biophysics*, 1947, **9**, 127.

[2] Craik, K. J. W., *The Nature of Explanation*, Cambridge, 1943.

[3] It has been conjectured, without experimental support, that the rhythm of the electroencephalogram may be associated with this scansion mechanism.

[4] Wiener, N. *Cybernetics*, New York, 1948.

[5] Adrian, E. D., loc. cit.

[6] Dawson, G. D. (*a*) *Journal of Neurology, Neurosurgery, and Psychiatry*, 1947, **10**, 137. (*b*) *British Medical Bulletin*, 1950, **6**, 326.

in the arm. The work of Lorente de Nó[1] and others gives physiological evidence for supposing that a set of neurones conform to an electrical system, and both obey an "all-or-nothing" law. Young[2] has shown that the removal of certain higher brain centres in the cuttlefish leads to a wild continuous swimming motion which continues till death, and Gray and Sand[3] had earlier produced a similar state in a spinal dog-fish. Bailey[4] showed that cauterizing the interpeduncular nucleus in cats leads to an obstinate progressive movement in which they walk continuously forward until they die; if they meet an obstacle such as the wall of the cage they press ceaselessly forward until all the hair is rubbed off and the scalp lacerated. Other forms of inducing restlessness or lethargy are all adduced in favour of the view that damage to "feed-back" mechanisms is responsible. Lashley[5] in his most recent search for the engram did not find it possible to demonstrate the isolated localization of a memory trace anywhere within the nervous system. This observation has also been used in support of the "electronic" hypothesis of mental activity since storage in an electronic machine is non-localized in the sense that alternative accommodation for information is available.

Many of the analogies adduced by Wiener in support of his thesis are either invalid or highly speculative. He appears to regard the brain as a telephone exchange with innumerable subscribers; when it is overloaded, widespread dislocation ensues; cut out some of the subscribers and order is restored. Without further evidence the analogy is drawn of the value of prefrontal leucotomy and lobotomy in certain mental disorders. The suggestion that the hypermetria of cerebellar ataxia is an expression of "undamped feed-back" has received a characteristic death-blow from Walshe.[6] If we may borrow, and modify for application in this field, a phrase of Samuel Butler's: "Analogy is like the sword. They who appeal to it, shall perish by it."

But though the evidence is still unconvincing let us accept provisionally the view not only that the artefact acts like the brain, but that the brain acts like the artefact. Where does it lead us in our

[1] Lorente de Nó, R. in J. F. Fulton's *Physiology of the Nervous System*, Oxford, 1943.

[2] Young, J. Z. see Sanders, F. K. and Young, J. Z., *Journal of Neurophysiology*, 1940, **3**, 501, and *Doubt and Certainty in Science*, Oxford, 1951.

[3] Gray, J. and Sand, A., *Journal of Experimental Biology*, 1936, **13**, pp. 200 and 210.

[4] Bailey, P., *Proceedings of the Society of Experimental Biology and Medicine*, 1942, **51**, 307.

[5] Lashley, K. S. in *Symposia of the Society for Experimental Biology, No. IV, Physiological Mechanisms in Animal Behaviour; "In Search of the Engram,"* Cambridge, 1950, p. 454.

[6] Walshe, F. M. R., *The British Journal for the Philosophy of Science*, 1951, **2**, 161.

search for an answer to the body-mind problem? Clearly it must be conceded that many of the characteristics hitherto attributed to the abstraction, "mind," must now be conceded as belonging to the abstraction, "brain." The chess machine, for example, forces us to admit the possibility of mechanized thinking or to restrict in a very special way our concept of thinking. Memory, recollection, purposive action, logical reasoning, communication, self-consciousness, prejudice, preference, weighing of evidence, originality, learning, and formulating hypotheses and universals—all these can be mechanistically determined and explicable in terms of the perceptually known if the brain functions like Mackay's artefact. And as we continue to perfect our machines and learn more of brain physiology we may transfer to the material mechanistic abstraction still more of the attributes formerly assigned to mind; indeed, as Bichat defined life as "that which resists death" so may we be tempted to define "mind" as that rapidly contracting part of reality which is not mechanically replicable. What then would "mind" be restricted to?

There are some who are prepared to concede that an artefact can do all the things claimed for it, but assert that these are concerned solely with "mental" processes which can be described by logical or mathematical symbols. "But," they say, "you will never make a machine which is kind and friendly, which can fall in love, or enjoy a good bottle of wine, or indeed, cast its vote, with all the emotional and irrational conduct which that implies."

For example, Ewing[1] writes "It is incredible that a body unaffected by purpose should produce, for example, a work like *Hamlet* or Kant's *Critiques*, and Jefferson[2] that "not until a machine can write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols, could we agree that machine equals brain—that is, not only write it but know that it had written it. No mechanism could feel (and not merely artificially signal, an easy contrivance) pleasure at its successes, grief when its valves fuse, be warmed by flattery, be made miserable by its mistakes, be charmed by sex, be angry or depressed when it cannot get what it wants."

But these are arguments which rest on gaps in our present knowledge and lead inevitably, as Turing[3] has shown, to a naïve solipsism. History reveals the hazards of reliance on temporary ignorance, and though history may not repeat itself historical situations recur. The rude shocks to contemporary vitalists of Wöhler's synthesis of urea, of Loeb's tropisms, of Pavlov's conditioned reflexes, of Watson's behaviourism and the like should not be too readily forgotten. Nor

[1] Ewing, A. C., in *Chambers' Encyclopaedia* ("Materialism"), London, 1950, **9**, 150.

[2] Jefferson, G., *British Medical Journal*, 1949, **1**. 1,105.

[3] Turing, A. M., *Mind*, 1950, **59**, 433.

indeed should the dualists lightly dismiss the fate of Drieschian Entelechy, which appeared to be enthroned until recent years in an unassailable citadel. Yet only the other day Lord Samuel[1] declared, in giving an example of the fundamental difference between the activities of mind and those that produce material phenomena:

> Watch a chess player cogitating for half an hour whether to move his queen here or his pawn there; at last stretching out his hand and doing the one or the other. The physiologist may describe the nervous and muscular mechanism which operates the movement, but not the process which has decided the choice. The chess player himself is evidently of a different order from the chess-board and the pieces; in him there is some activity going on which is not material; in them there is not. Intellectual creativity, the power or choice, are of a different order from chemical and electrical reactions.

But what would Lord Samuel say of Shannon's chess machine?

We must, however, recognize the dangers, however alluring, of the total and universal extrapolation which states that "since one by one the properties we have attributed to mind have been demonstrably replicated by matter, given sufficient time all will be," for this is simply a material form of an emergent vitalism, life and mind appearing in a mechanism at a given state of complexity. If we are to avoid these dangers we must pay greater heed to words and definitions, for as Hobbes wrote in his *Leviathan* "words are wise man's counters, they do but reckon with them; but they are the money of fools."

Throughout our discussion to-day I have refrained from any explicit definition of mind or matter, though I have sought to show that any such definitions must be unstable and evanescent. This was not unpremeditated, for only by refusing to say precisely what is meant by the words they embody have so many philosophical theories in this field appeared plausible. As Ellis[2] has argued: Ask the epiphenomenalist what he means by matter. If he means the appearances given in perception then his assertion is meaningless because perception is precisely what he purports to explain. If he means something extended in space but having none of the other qualities given in perception, then his theory is still self-refuted since extension is merely an abstraction from perceptual experience. If, alternatively, he means by matter the "matter" of scientific theory—electrons, protons, mesons, quanta and so forth—his theory is even more confused and meaningless since these are certainly the creation of human minds, and if they have some sort of reality independent of our thinking, they can still only be discovered by the activity of our minds, so that unless we believe in the independent reality of mind, we cannot believe in the independent reality of anything. The only

[1] Samuel, Viscount, *Essay in Physics*, Oxford, 1951, p. 133.

[2] Ellis, W., *loc. cit.*, p. 282.

definition of matter which would lend any plausibility to epiphenomenalism is to define it as an unknown thing in itself which causes phenomena, i.e. a noumenal world which causes perceptual experience. So that unless we are very careful to define precisely what is meant by matter and by mind, such statements as "brain activity causes mental phenomena" are senseless and our using the terms without definition "tends to degrade any discussion of the psychophysical problem into a mere squabble over verbal forms"; and we can, of course, refute idealism by arguments which would be the mirror image as it were of the refutation of epiphenomenalism.

Lest the modern semanticist puffs with pride at this affirmation of his creed, let me remind him of what Francis Bacon wrote in his *Novum Organon* four centuries ago:

> But words for the most part are imposed at the will of the vulgar, and divide things by lines most conspicuous to the vulgar intellect. When, however, a sharper intellect or more diligent observation wishes to shift these lines, to make them more in accordance with nature, then words cry out against it. Whence it comes that great and solemn disputations of the learned often degenerate into controversies about words and names; with which (after the manner of foreseeing Mathematicians) it would have been more advisable to have begun, and to have reduced words to order by definitions. And yet these definitions (in things natural and subject to laws of matter) cannot cure this evil, since definitions themselves consist of words, and words beget words. And so it is necessary to recur to particular instances, and to their series and orders.

I cannot hope to have conveyed my thesis without the obscurity or dogmatism imposed by the limitations of time. What I have sought to establish is that much of our attempt to solve the body-mind problem springs from the scientific urge to seek identity in difference or to rationalize the manifold. The ultimate goal of science is a universal monism. The words "body" and "mind" are abstractions, albeit but two of the abstractions, isolated from human experience. The notions or ideas these two words convey have had a different content as time has passed and knowledge has extended. Advances in the past century have shown that much which was regarded as "mental" in terms of psyche, must now be looked upon as "corporeal" in terms of a machine. We have kept the same conceptual scaffolding though we have varied its function and design.

But Cartesian dualism in modern dress still dominates physiological and medical thought. For Sherrington[1] the relation of body to mind "is still unsolved and even devoid of a basis for its very beginning." He takes his stand with Aristotle, who two thousand years ago was asking, How is the mind attached to the body? "We are asking that question still", writes Sherrington. But when he states "that our being should consist of two fundamental elements offers I suppose no

[1] Sherrington, S. C., in *The Physical Basis of Mind*, Oxford, 1950, p. 69.

greater inherent improbability than that it should rest on one only" he may be right; but is he not abandoning, perhaps prematurely, the monistic aim of science?

Many philosophers are still content with an epiphenomenalism. Others look upon mind and body "not as two disparate entities between which we have to make or find some sort of amphibious bridge" but insist "that talking about minds and talking about bodies are but different ways of classifying and interpreting our experiences." And this resolution of their perplexities appears to satisfy their intellectual curiosity, if Ayer[1] is to be regarded as their spokesman, for he writes "but once we are freed from the Cartesian fallacy of regarding minds as immaterial substances, I do not think that the discovery of causal connections between what we choose to describe respectively as mental and physical occurrences implies anything by which we need to be perplexed." Yet others believe with Ryle[2] that there is neither justification nor value in the abstractions of body and mind that "the two worlds story is a philosophers' myth, though not a fable," and that "the cardinal mental concepts have been credited by philosophers themselves with wrong sorts of logical behaviour." So when, for example, Adrian writes of "Thoughts deciding actions" Ryle would maintain that not "thoughts" but Adrian had decided something or come to a decision. But is not Adrian an abstraction from Reality, the whole, the totality of things? And would we not sound the death knell to scientific investigation if we ceased using abstractions or universals in its pursuit? Five years ago, in a popular journal,[3] Gerard wrote: "it remains sadly true that most of our present understanding of mind would remain as valid and useful if for all we knew the cranium were stuffed with cotton wadding." The Ryle school would appear to support this view.

But is it not possible that our abstractions of "body" and "mind" are not appropriate for solving in its modern setting the problem which has for so long been posed, and that quite different abstractions are necessary for its resolution, abstractions which may ultimately dissolve in a uniform concept, just as the abstractions of "acid" and "alkali" dissolved in the concept of hydrogen ion concentration? Despite the positivists, semantics alone will not I fear suffice. We need new ideas, and as Butterfield[4] has observed "of all forms of mental activity the most difficult to induce is the art of handling the same bundle of data as before but placing them in a new system of relations with one another by giving them a different frame-work, all

[1] Ayer, A. B., in *The Physical Basis of Mind*, Oxford, 1950, p. 74.
[2] Ryle, G., *loc. cit.*, p. 329.
[3] *Scientific Monthly*, 1946, p. 62.
[4] Butterfield, H., *The Origins of Modern Science*, London, 1951, p. 1.

of which virtually means putting on a different kind of thinking cap for the moment." Is then our quest a new thinking cap?

The topic with which I have sought to deal is one of the most fascinating in the fields of critical and speculative philosophy. What I have said may, I trust, help to clarify the question of the relation of brain and mind, though I dare not hope that I have simplified it. I can but pray that Manson would have approved the manner of its treatment, despite its manifest shortcomings, and that in your charity you will remember that what I have offered are the thoughts of an amateur, for we are no less amateurs in philosophy for being professionals in medicine.

THE "OBJECTS" OF HISTORICAL KNOWLEDGE

PATRICK GARDINER, M.A.

In this article I want to consider a short passage from R. G. Collingwood's *The Idea of History*. I have chosen the passage in question both because it seems to me, for reasons which will become clear later, to contain the kernel of much that Collingwood himself wished to say on the subject of historical knowledge, and also because it implies a still widely held (and, I shall maintain, incorrect) conception of the nature of such knowledge.

The paragraph under consideration is to be found on page 213. It runs:

"The historian, investigating any event in the past, makes a distinction between what may be called the outside and the inside of an event. By the outside of an event I mean anything belonging to it which can be described in terms of bodies and their movements: the passage of Caesar, accompanied by certain men, across a certain river called the Rubicon at one date, or the spilling of his blood on the floor of the senate-house at another. By the inside of an event I mean that in it which can only be described in terms of thought: Caesar's defiance of Republican law, or the clash of constitutional policy between himself and his assassins. He is investigating not mere events (where by a mere event I mean one which has only an outside and no inside) but actions, and an action is the unity of the inside and the outside of an event. This work may begin by discussing the outside of an event but it can never end there: he must always remember that the event was an action, and that his main task is to think himself into this action, to discover the thought of the agent."

It is not difficult to see roughly what this means. The point might be made by saying that when we are presented with a case of somebody's having done something it is usually, although not always, appropriate to ask why this person did what he did, where the answer expected will be in terms of a particular aim, intention or motive which the agent had. And Collingwood is arguing that it is with this type of explanation that the historian is largely concerned.

It would clearly be absurd to deny the truth of this: it is indeed so obvious from the casual reading of any history book as to constitute almost a platitude. It is nevertheless possible to criticize the manner in which Collingwood has formulated his point and to attempt to show that the misleading character of this formulation

caused him to draw consequences from his truism which are wholly unacceptable.

Consider first the division of historical events into "outsides" and "insides." To this it might be objected that, while we can see what is meant by describing a house or a book as having an outside and an inside, events do not appear to be describable in such a way; and that this restriction is due, not to any peculiarity in the structure of events as opposed to that of other things, but to the logical grammar of the word "event," for events are not things at all—they happen.

It might be replied that this objection is a result of being too literal-minded. For it is clear that Collingwood was speaking metaphorically when he drew his distinction; and what is wrong with a metaphor? The answer is: Nothing, provided that it is not taken too seriously. Difficulties only arise if a philosopher, after introducing a metaphor to illustrate his point, does not discard it when it has performed its legitimate function, but instead allows it to misdirect his subsequent thought.

Let me begin by providing an illustration (admittedly crude) of how in this present instance this might happen. By speaking of human actions as possessed of outsides and insides, we may be tempted, if we follow our metaphor through, into supposing that, in order to discover why an action that interests us has been, or is being, performed, we must somehow be able to *look into* the agent's mind to detect the thoughts occurring there. But, *prima facie*, this is not at all what we do when we are trying to discover people's motives for doing things; nor do we know what such a procedure would be like. The expression "to look at (or inspect) a thought" makes no apparent sense; and the extreme oddity of this way of speaking would be brought out if someone were to remark: "I have been keeping your thoughts under continuous observation for the last five minutes," as if thoughts resembled performing bears in a circus-ring. We should, however, understand him if he gave his sentence a use, if he explained, for example, that he had been watching *us* for the last five minutes and that the expression on our faces had told him what we were thinking.

Now Collingwood does not of course suggest that the historian literally attempts to look into the minds and hearts of the persons whose actions he is describing. The fact that most of these are dead and buried would not assist such an enterprise. But he makes some curious statements. For instance, he writes (p. 287): "It is not only the object of thought that somehow stands outside time; the act of thought does so too: in this sense at least, that one and the same act of thought may endure through a lapse of time and revive after a time when it has been in abeyance." And, he goes on to

assert, historical thinking consists precisely in such acts of "revival" of past thoughts. Thus, on page 302, we are told: "If we raise the question, of what can there be historical knowledge? the answer is, of that which can be re-enacted in the historian's mind"; and, later on, "The object (of historical knowledge) must be of such a kind that it can revive itself in the historian's mind; the historian's mind must be such as to offer a home for that revival" (p. 304).

In the light of this interpretation, an everyday occurrence begins to look very mysterious. We are informed that to know why a particular man acted as he did in a particular situation we must know his thoughts. This apparently is only possible because thoughts are timeless entities which can be revived in his own mind by the historian. Such a "transcendental deduction" provides Collingwood's solution to his problem; nevertheless it is an expensive solution, requiring the postulation of a peculiar entity, a peculiar container in which this entity may be "housed," and a peculiar technique by which the "housing" may be achieved. And, because Collingwood was an honest man, some of the difficulties into which his theory drew him are stated, although not, I think, satisfactorily met, in the section of his book called *History as the Re-enactment of Past Experience.*

What are these difficulties and were they avoidable? As has been seen, Collingwood describes human actions as divided into two separate compartments. One of the motives for painting this picture seems to have been that we do not see what people are thinking in the way in which we see what they are doing. But there are plenty of occasions on which it is correct to say that we know why they do what they do. Hence it is inferred that we must have some *other* "direct" means of making contact with their thoughts; we must "revive" their thoughts in our own minds. For how else is it conceivable that we should be able to cross the boundary that separates the inner from the outer man?

The trouble is, however, that immediately we begin to talk of "boundaries," just as immediately we begin to talk, with Collingwood, of the "insides and outsides" of events, we so formulate the problem as to make it either in principle insoluble or capable at best of only weird solutions. The metaphor has over-reached itself. A metaphor is ordinarily introduced to stress an analogy between a given case and other cases that may be very different from it in other respects. There is perhaps a certain analogy between the case of a man who works out a plan in his head prior to realizing it in action and the case of a machine driven by a fuel invisible to the external observer. But there are also vast differences.

When we try to find out another person's thoughts, intentions or motives, we are not confronted with a problem of crossing a boundary

or penetrating a wall, in the ordinary sense, at all. For what, in such cases, would count as being on the other side of the boundary or wall? One answer might be that I should actually be, or become, the person who is thinking the thoughts or conceiving the intentions which I desire to know. But this will not do. For, apart from any other considerations, it is to know what *another* person is thinking or planning, and not to know what *I* am thinking or planning, that bothers us and bothers the historian. Even if I were to become Thomas à Becket overnight—if such an hypothesis can be given any meaning—nothing to the present purpose would have been achieved. For the question: "What did he, Becket, think?" is a question which can only appropriately be asked by someone who is not Becket; and the answer: "His thoughts were such-and-such" can again, in logic, only be made by someone who is not Becket, by, say, his historian or biographer.[1]

Collingwood's compromise suggestion is to treat thoughts as entities (he refers to them as if they were "objects" that can be "studied") which two different persons may "have" at different times. He even writes (p. 297): ". . . for myself . . . to be Becket is to know that I am Becket, that is to know that I am my own present self re-enacting Becket's thought, myself being in that sense Becket." Such a theory he derives from the employment of the "outside-inside" metaphor, with its quasi-spatial associations. The historian by reviving in his own mind a thought that was once in another's mind, comes to know the original thought as intimately as its first "possessor"; and furthermore in doing so he is to be regarded as "in that sense" identifying himself with the latter. But even if it were legitimate to regard thoughts and intentions in this way, it is clear that the modified theory will again not do the work that is required of it. For how, on such an hypothesis, does the historian know that the "revived" thought is the thought the agent in fact had when he performed his action? How does he know that what he calls a "revival" is really a revival? Suppose that two historians both claim to have revived the thoughts and plans of Napoleon on the eve of Austerlitz, and suppose that their accounts diverge. What criteria exist for deciding which is correct?

The reply might be that we should accept the account most in accordance with the facts. But what are "the facts"? Napoleon's thoughts? But this again presupposes that there is some means of becoming acquainted with Napoleon's thoughts independently of "reviving" them, there is a procedure by which we can compare

[1] Compare the case of statements about the past. It is a feature of such statements that they exclude the possibility of observing, at the times when they are made, the situations they record. This, however, is not a "limitation" upon them, but part of their function.

Napoleon's thoughts with the competing revivals of these thoughts by the two historians. But what procedure? Undertaking a revival ourselves? But then what is the status of *this* revival? We must presumably check its merit against a fourth, and so on *ad infinitum*. "The facts" remain for ever out of reach—"a phantom for ever doomed to fade in our embraces, a mocking shadow beyond the horizon of our grasp" (Bradley).

Alternatively it might be argued, with considerably more plausibility, that the facts in question are such circumstances as the military situation confronting Napoleon on the eve of Austerlitz, together with what he did, his orders, tactical dispositions and so forth. And these are, of course, amongst the criteria used by historians for reaching a decision about the correctness of one interpretation of Napoleon's plans and intentions as opposed to another. Collingwood himself admits as much.[1] But he concedes the point because he believes that in some way it supports his own theory. The historian's knowledge of the circumstances in which a man acted enables him to perform the *additional feat* of revival which is believed to be necessary if he is to know what the agent's intentions were.

But this is a muddle, which acquires plausibility because, *considered as a description of how historians sometimes reach their conclusions*, it is probably fairly near the mark. For an historian may, after examining the circumstances in which an historical character acted, imagine what he himself would have been trying to do if he had been in the position of the agent and if he had been acting in the way in which the agent acted. There will be more to say of this procedure, together with its justification and limitations shortly. But there is all the difference between, on the one hand, giving such an account, and, on the other, claiming that the occurrence of an imaginative feat of the sort mentioned represents the last stage of historical inquiry, the stage at which all doubts are laid at rest and the motives and purposes of the agent established as known. For it does not. To take a different example, a detective, after investigating all the circumstances of a crime, may imagine what he, if he had been in the position of the murderer, would have been attempting to achieve. But he does not stop there. He looks round to see whether other facts fit his interpretation. He uses his hypothesis to investigate fresh ground: "if that is what the murderer was after, we should expect him to do this—and this is in fact what he did do." Such evidence provides *confirmation* for his theory; confirmation for the detective does not consist in some intrinsic quality attaching to his hunch.

This distinction is blurred by Collingwood's use of words like

[1] *The Idea of History*, p. 296.

"revive": his use of these words begs all the important questions. For either talk about thoughts being revived has a point in this connection or it has not. If it has, then the point must presumably be that in reviving another's thoughts we are obtaining knowledge of what he is thinking (or intending) which is better than, or additional to, the knowledge we obtain by observing his behaviour, taking account of the context of his actions, or listening to his confessions. But if it is by using the latter criteria that we decide whether or not our hypothesis in fact represents a revival of what those thoughts are, then this point is lost. For if this is how we (and historians) do determine what is to count as a revival, where is the difference between saying that someone has revived another's thoughts and saying that someone knows (that is, has conclusive grounds for asserting) that that man's thoughts were such-and-such? The mere fact that an historian, when or after examining the activities of a particular person, has a particular imaginative experience will not, by itself, warrant his claiming that he has "revived" the agent's intentions. Collingwood has let in, under cover of the word "revive," the criteria he (curiously) regards as disreputable. But this is a logically inevitable consequence. And it is plain that the ordinary criteria according to which we satisfy ourselves whether or not another person thought or intended something, namely, by asking him, watching his reactions, comparing his behaviour with that of others or ourselves in similar situations, are felt to be inadequate because they are not the criteria of "introspection." And it is "introspective acquaintance"—the kind of evidence that a man has of *his own* thoughts and intentions—that is wanted. Hence the demand for knowledge "in the fullest sense" of another person's thoughts and intentions is at root the demand that I should know your thoughts and intentions in the way in which you know them, namely, by having the same—really and truly the same—ones myself.[1] The bitter pill is made more palatable by its being possible to speak, for example, of two people "having the same thoughts"; but this linguistic fact is only consoling in so far as we confuse the logic of such an expression with the logic of expressions like "having the same house," "sharing the same room"—the logic of part-ownership of material things. Thus Collingwood's compromise theory, like its more honest associate, is doomed to wither away in logical impossibility, and for the same reasons.

I have argued so far that Collingwood's mistake sprang from his initial use of the inside-outside metaphor to describe human action, which drove him on his long quest after the logically unattainable.

[1] The proposition that I always know better than anyone else what I want, intend, etc., is, of course, dubious, *in its ordinary sense*. Here, however, it is treated, not as a statement of fact, but as analytic.

But there were other, less questionable influences at work, and, concealed in his metaphysics, there lurks an important truth.

Consider such expressions as "looking at the matter from his point of view," "seeing it through his eyes," "imagining oneself in his position," or simply "understanding how he felt." The point of such expressions as these is that they are used when we wish to emphasize that we do not merely know why a particular individual acted as he did in the sense, e.g. of being able to state the reasons which governed his choice, or of being able to predict how he would have reacted if certain questions had been put to him or if certain obstacles had been placed in his path. For in the latter sense of "knowing why somebody did something" it is consistent to say, for example: "Although I know why he acted as he did, I confess that I cannot *understand* his motives," or: "I know that this is how he reasoned, yet how he could have done so passes all comprehension." And, on the occasions where such judgments are appropriate, it is, in an intelligible sense, possible to say that the speaker only knows why the agent did what he did "from the outside." A reader, may, for example, assert that he knows why a character in a novel by Dostoievsky behaved in a particular manner because the author either states explicitly, or otherwise signifies by the comments of other characters or by the behaviour and avowals of the man himself, what his motives and reasons were; but the same reader may still be puzzled, saying that he cannot conceive how anybody could have acted from the motives or reasons in question.

What has he missed? One might say that he has missed a certain experience, a "warm feeling of familiarity" that he has when reading Trollope or Jane Austen. Or one might say—at a pinch—that he has not succeeded in "re-enacting the thoughts and intentions of Dostoievsky's character within his own mind." Or, if one prefers plain English, one might say that he has simply "failed to understand."

It is not necessary, however, to draw any mysterious consequences from such situations; nor are we forced to conclude that "understanding a person's motives or intentions" in the sense described involves some extra-acquaintance with the "contents of his mind," still less that only when such understanding is present can we be said to "know" those motives and intentions. The entire enterprise of attempting to assimilate "understanding" to the privileged model of perception or acquaintance is, indeed, mistaken, as Professor Ryle has sufficiently shown.[1] What can be said is that it is frequently a condition of my being able to understand why a person acted as he did under certain circumstances and with a certain intention that I should have had some experience of acting under analogous

[1] *The Concept of Mind* (pp. 51–60) a book to which I am greatly indebted.

circumstances myself; it is upon the presupposition of such experience that the force of the recommendation "Put yourself in his position" depends.[1] And, of course, the extent to which our knowledge of what it is like to be confronted with certain types of situation and to take decisions or make plans in the face of such situations is embedded in our attribution of motives, intentions and reasons to the actions of others cannot be overlooked, although (and this is an important rider) such knowledge is manifested far less in the form of consciously and deliberately imagining ourselves in the other man's shoes than some theorists (like Collingwood) would have us suppose. Its most characteristic manifestation is in the bewilderment expressed in the presence of unusual or abnormal cases, and not (as again seems to be presumed) in the formulation in the presence of perfectly ordinary cases of elaborate analogical arguments.

If this is allowed we can see more clearly the point which shows through Collingwood's analysis of historical knowledge and which, being misinterpreted, was partially instrumental in leading him to his paradoxical conclusions. It is clear that personal experience and knowledge of what it is like to act from certain motives or with certain plans or purposes in mind are not only closely connected with *understanding* the behaviour and actions of others; they also function as guides in the *prediction* of such behaviour and actions and in the assignment to them of the correct interpretations. "Re-enactment" and "revival" in this sense, regarded, that is to say, as names for the ways in which we commonly form hypotheses about the actions of others, refer to an important feature of historical discovery, a feature to which Collingwood was (rightly) anxious to draw attention. And such methods are justifiable on *inductive* grounds: it is because we are like other people that we are able to infer from our own reactions to theirs. But even here we must be careful. For, as has been pointed out, we do *not* always "understand" in the required sense. And the hypotheses we formulate about the actions of other people may be wrong simply because we have supposed them to be more like us than they really are. If we are wrong we soon enough find out—the person whose behaviour interests us does not subsequently behave as our interpretation of

[1] Appeals of this kind frequently find their way into moral and legal arguments. Thus Yevgeny Pavlovitch in *The Idiot* says: "It reminds me of the celebrated defence made recently by a lawyer who, bringing forward in justification the poverty of his client as an excuse for his having murdered and robbed six people at once, suddenly finished up with something like this: 'It was natural,' said he, 'that in my client's poverty the idea of murdering six people should have occurred to him; and to whom indeed would it not have occurred in his position?' Something of that sort, very amusing. . . ." In moral questions the allocation of blame seems frequently to be a function of our *not* understanding—or, perhaps, of our understanding too well.

his motives, if correct, would require him to behave, he makes the "wrong" moves. And it is, I should have thought, a test of the worth of an historian, as it is a test of a person's judgment in ordinary life, that he should *not* always found his interpretations upon his own limited experience and character, that he should recognize in what enormously divergent ways people think and feel: is not this at least part of what is meant by "historical imagination"? Giving reasons for attributing a particular motive, intention or policy to a person sometimes no doubt involves an appeal to ourselves, taken as standard; but it need not, and often does not. For often, in ordinary life, we wish to draw attention to the fact that a particular agent is "different"—he is perhaps "odd about money" or "lacking in good taste"—and hence that we must be careful how we interpret his behaviour in certain kinds of situation. But how should we establish our claim to know that he is in these respects peculiar? Not surely by "inside knowledge" in Collingwood's sense, but in the everyday sense of the expression where it refers to a thorough and long-term experience of a person which is unshared by those who are acquainted with him only slightly, or not at all. The routes that we, and historians, take when forming hypotheses about the actions of others are various: there is no single formula, one method is checked or tried out against another, and when a certain course is found to be unfruitful we use a different one.

To sum up. It has been argued that Collingwood's method of representing historical inquiry as a passage from external behaviour to internal thoughts was unsatisfactory because it led him to the conclusion that historical knowledge consists in the historian's becoming acquainted with entities or agencies subsisting behind, or "inside" the activities of others; and I have given reasons for believing that this conclusion is mistaken. And with its rejection we can dismiss the idea that such knowledge must be sharply differentiated from that involved in other branches of inquiry on the grounds that it is "non-inductive" in character and peculiar in its "objects" or "material."[1] For to suppose that it can be characterized in this way is to misrepresent a genuine distinction. There are many concepts which, although they have an application in the field of human behaviour, are not thus applicable in the spheres of non-human behaviour; we cannot say that Newton's apple fell to the ground because it "wanted" or "intended" to do so. But from the fact that historians are necessarily and intimately concerned with the use of such concepts, it does not follow that the historian is engaged upon a species of shadow-biology. Collingwood's paradoxical conclusions should have told him, not that he had vindicated

[1] I do not want to suggest that *no* line can be drawn but only that the line has been drawn in the wrong place and in the wrong way.

history as a study in its own right with a unique subject-matter methodology, but rather that he had made a mistake. For, it has been argued, these conclusions are a consequence of taking too seriously the spatial models which our language tempts us to accept and hence of paying insufficient attention to the actual criteria employed by historians when they are determining why a given person acted as he did, and to what it *means* to attribute reasons, intentions or motives to a person's action, what factors count for or against our interpretation in these terms, what is entailed by the truth (or falsity) of such interpretations.[1] An assimilation of the use of the words "reason" and "intention" in history to the use, say, of the words "cell" and "microbe" in biology leads and can only lead, to logical disaster, the kind of disaster that befalls all too many adventures which begin as attempts to demonstrate the autonomy of historical knowledge and end by demonstrating the impossibility of such knowledge.

[1] One of the results of analysis would be to bring out the differences between types of interpretation—distinctions which Collingwood's theory unwarrantably and tendentiously obscures by bundling together various ways of accounting for human behaviour under the umbrella word "thoughts." This is unwarrantable because it is manifest that interpretations of the kind considered do not always or only entail the existence or possibility of verbal formulation by the agent of why he is doing what he is doing: it is tendentious because it is easier with the model of thinking, which is frequently although not necessarily a "private" process, in mind to accept the "inside-outside" picture and all its queer implications.

University of Oxford.

THE STUDY OF POLITICS

E. A. KEDOURIE

I

In his article on "The Nature and the Status of the Study of Politics"[1] Professor White raises, whether explicitly or by implication, some of the most important and, probably permanent problems of the subject. The solutions that he attempts to provide seem to me, however, to be less satisfying than might be expected.

Professor White starts by giving two defining characteristics of politics. These are:[2] (*a*) The distinctively group nature of anything that can rightly be called "political," and (*b*) the fact that any body of political phenomena is composed of contrary, but mutually dependent tendencies. These two defining characteristics of politics, moreover, according to Professor White, describe the nature and the limits of the *study* of politics. I question whether these really are characteristics of politics, or whether they are defining characteristics either of politics or of the study of politics.

To take the first one. Professor White distinguished Politics from Economics, Politics being assumed, as stated above, to be concerned with groups and Economics with individuals. I do not see how this contrast between Economics and Politics can be sustained. Both Politics and Economics are concerned with individuals as well as groups. Indeed, it could not be otherwise, since both are social studies.

It is surely an accident of history that an important part of economic doctrine extant starts from a view of the individual—and a highly misleading view at that—, an individual who tries to maximize pleasure and minimize pain, is completely rational, and has a definite and conscious scale of preference. I refer of course to the fact that it is the philosophical radicals or others working in the mental climate created by them, who built the foundations of much of economic doctrine current now. Two remarks are worth making at this point: first, that the Economics of the philosophical radicals—which is the one apparently referred to by Professor White—has its counterpart in a Politics also starting from the same schematic individual—the Politics of Bentham and of James Mill, for instance; second, that there is an Economics which diverges from that of the philosophical radicals and their heirs—the Economics of Keynes, for

[1] *Philosophy*, Oct. 1950, pp. 291–300.

[2] *Loc. cit.*, p. 292.

instance, which does not deal so much with the rational "individual" of Benthamite and Ricardian parentage, but with societies and groups.

At this juncture, one may take up Professor White's remark[1] that "in socialistic and communistic forms of society, political considerations dominate the economic." Is it not conceivable that in capitalistic societies, too, political considerations (in Professor White's sense) may dominate the economic, as for instance, when employers decide to grant a wage increase to employees in order to safeguard industrial peace and not weaken the position of a Government, the continuance of which they consider in the interest of the country as a whole? The situation is conceivable and there are other similar situations, but I do not know how they would fit within the strait frame of Professor White's distinctions. They would not because the distinctions are unworkable. A clue to the reason why they are unworkable is perhaps provided by a remark of Professor White to the effect that "Economic combination is possible among the most diverse of men who would not combine for anything else and who have no further end in view than to serve their particular interests"[2] and by another one to the effect that "there is an actual solidarity about the political community which is not present in ethical and economic groups."[3] This is indeed to disregard the vast evidence accumulated by historians and anthropologists concerning the deep and strong dependence of economic, political and religious institutions each on the other, evidence so well marshalled in the case of capitalistic societies by Professor Tawney and more recently by Canon Demant. This then is why Professor White's distinctions are not workable; for they contrast a view of the political—about which something will be said later—with a view of the economical which has not stood the test either of study or of practice, as the history of the last quarter of a century shows.

Still considering the first defining characteristic of politics, Professor White makes another distinction, this time between Ethics and Politics, also on the ground that Ethics is concerned with the individual and Politics with the group. The reason is that "moral responsibility can neither be shared by others nor measured in terms of anything else."[4] Is the case otherwise in Politics? If I were a Minister holding office in this country, would it not be true to say that my political responsibility can neither be shared by others nor measured in terms of anything else? An ethical problem, it is true, is different from a political problem, but this is not because the ethical problem is one concerning an individual and the political one concerning a group—both problems concern individuals-in-society.

[1] *Loc. cit.*, p. 294 *n.* [2] *Loc. cit.*, p. 294. [3] *Loc. cit.*, p. 295.
[4] *Loc. cit.*, p. 295.

In this respect one must conclude, then, it is not possible to draw a distinction between Ethics and Politics.

If one now considers Professor White's second defining characteristic, one is similarly hard put to it to discover how it can shed any light on the nature or the status of the study of politics. Professor White says[1] that any body of political *phenomena*[2] is composed of contrary but mutually dependent tendencies. He amplifies this subsequently[3] by explaining that the essential *facts* and *concepts*[4] are always found in pairs, instancing order and liberty, state and individual, etc. It seems to me that there is here a confusion of thought: order, liberty, state, individual, if they are to be contrasted, are certainly not "facts" or "phenomena"; they are "concepts." Does Professor White then equate facts and phenomena with concepts? As concepts which depend on their definition, order, liberty, state, individual, may be certainly compared, contrasted, joined or separated. Such is not the case with political facts and phenomena which are composed of innumerable elements depending on human weaknesses, foibles, or beliefs and the quirks of chance and circumstance. Concepts we use to reduce phenomena to intellectual order but we must not confuse them with phenomena and the contingent and unpredictable that phenomena contain. Professor White has, it seems to me, confused them and thus presented us with a political theory with panlogistic implications. He is, of course, at liberty to do so; others before him have done it; but a political theory is not an explanation of the nature and the status of the *study* of politics which is what Professor White set out to do. What is a political theory? A political theory as I see it, is an explanation or a justification of the exercise of coercive power by some men over other men; a political theory would try and expound the mode of exercise of such power, the limits to which the power should be subject and the aims of the exercise of power: this is what Hobbes does and Locke and Rousseau and Bosanquet and Laski; this is also what Professor White has done. This becomes clear when we find Professor White at the end of his article[5] offering a defence of certain existing political systems.

On the other hand, to try and investigate the nature of the *study* of politics involves, to my mind, something quite different. It involves in the first place a consideration of the epistemological assumptions which must be made if one is to study politics; it involves a consideration of the nature of political reasoning, of the categories which can legitimately be used, of the ways in which political phenomena must be arranged so that significant generalization can be derived from them. It involves also, in an important way the attempt

[1] See above. [2] My italics. [3] *Loc. cit.*, p. 296.
[4] My italics. [5] *Loc. cit.*, p. 300.

to elucidate the function and standing of the student of politics in society and the professional ethics, so to speak, to which he must conform. These are fundamental topics which sooner or later begin to worry anybody who takes up the study of politics. So that one finds, here and there in the literature of politics, passages, remarks, reflections which bear on the problem peculiar to political studies: one meets them, for instance, in Aristotle, Acton, de Tocqueville, Austin, Julien Benda.[1] Professor Oakeshott, to take a recent example, has expounded[2] his view of the epistemological assumptions of Hobbes's political theory. But one can safely say that a full dress discussion of the *study* of politics does not exist and that it would be a very good thing if one were forthcoming.

Though Professor White seems to have set out to offer us some considerations on these questions, it is a pity that the problems which in fact were discussed, are other than those which his title led one to expect he would discuss. The problems of the *study* of politics are important, and this perhaps is the only excuse why one would venture to offer a few remarks on them, if only in the hope of stimulating discussion.

II

I will try to discuss the status of the study of politics from a viewpoint which I think would perhaps illumine more general questions. The questions that I want to discuss relate to the *student* of politics. What has been his function in society? Where has he flourished best? And in the light of the—very tentative—answers which one can give I would try and discuss the further question as to what kind of problem ought to interest the student of politics and what ought to be his attitude towards his subject-matter.

My own starting point in a discussion of the study of politics is a consciousness of the dangers, physical and spiritual to which the student of politics can be exposed. If I consider the history of political thought I am at once struck both by the rarity of political speculation in human history and the extreme localization both in space and time of such speculation. It is surely a striking thing that neither the Near Eastern nor the Indian nor the Chinese nor the Ancient American civilizations ever had a political philosophy or ever speculated on obedience and its limits or on the right to revolt. It is true, a literature of courtly wisdom and "statesmanship" is to be found in some of these civilizations but its existence serves to enhance the lack of an Aristotle or a Locke in all of them. So that one comes to the rather massive conclusion that, startling as it may

[1] Notably his *Trahison des Clercs*.

[2] In his introduction to Hobbes's *Leviathan*, Oxford, 1946.

seem, only in ancient Greece and modern western society is any speculation about politics to be found. Can one then perhaps say that political speculation to be carried on needs certain very special conditions seldom realized in the course of history? That perhaps it needs a society reasonably secure and orderly—a society moreover which is not stiffly hierarchical or caste-bound, where governors are not too remote and too awesome for the governed? And that if these conditions are not realized the study of politics becomes physically dangerous and is shunned in favour of cosmogony, theology and other subjects thought to have no connection with politics.

But the matter does not end here, nor is the physical danger that may exist the most serious, even if it were the most striking. I have said that the massive fact is that political speculation has existed only in ancient Greece and modern Western Europe. It would perhaps be of help in understanding the spiritual dangers confronting the student of politics if one were now to consider the history of political studies in Western Europe. The history of the study of politics can be conveniently divided into two branches. We may have first the history of speculation on political ideas and concepts and second the history of the systematic study of politics in Academies and Universities. If one considers the history of speculation on politics in England and on the Continent one finds that it has flourished equally well in both: the glories of English political thought, Hooker, Hobbes, Locke, J. S. Mill and Acton are well matched by the great Spanish Jesuits, the French Libertarians, Rousseau, Hegel and de Tocqueville. But if one were to consider the academic study of politics one would detect a contrast between what is usual in England and what obtains on the Continent. The contrast is this: that, whereas the study of politics is associated here with the humanities, it is with law that we find it linked on the Continent. Though at first sight this may seem a negligible difference to seize on, I think that far from its being fortuitous it is indicative of a great deal. Let me try to explain why I think so. A significant way of looking at the history of continental Europe is to regard it as a record of attempts to establish universal empires: Charlemagne, the Germans, the Turks, the Spaniards, the French and again in our own days the Germans have all tried their hand at the game. Extensive land empires are, I should say, not favourable to the development of the study of politics, that is to speculation on the relation between sovereign and subject, the control of the government by the governed, the right end of society, and so on. This is the case if only because the attempts to wield vast tracts of land into one produces attempts to set up efficient central governments from the scrutiny of which nothing may escape, governments which by the very nature of the case must be carried on by functionaries responsible only to those

above them. The discussion of the political problem would then be likely to go by default and would tend to be disguised as an administrative problem, that is how to do most efficiently what should without question be done. Land frontiers and land empires can become serious impediments to the development of political studies.

England was largely immune throughout its history from the attempts of empire builders and this perhaps is one reason why political studies continue to be carried on here in faculties of arts. Another reason may be that Roman Law received so early on the Continent remained a stranger to English Courts and Universities till comparatively late. The reception of Justinian's Code on the Continent enhanced the importance of lawyers in political speculation, and lawyers, it is notorious, are concerned with what is legal.[1] Justinian's Code also introduced the notion of law as command, that is a particular theory of political obligation. But to be concerned with what is legal, with what is made legal by the command of a lawful authority is to disguise the political as a legal problem.

The disguises of politics as administration and law are, I would say, two great spiritual dangers or temptations that can confront a student of politics. His function is to study the permissible exercise of power in human society; if he shifts from this task of his to the study of the efficient exercise of power or the legal exercise of power he becomes a technician, a servant of power, an attendant lord—he loses his *raison d'être* (which can be gathered from a consideration of where and why he has best flourished) and the result is doubly unfortunate: first because no man can be an attendant lord without his soul being in mortal danger and second because in the case of the student of politics he above all men is expected not to be an attendant lord. Perhaps these words of Henry Reeve, the translator of Tocqueville and the leader-writer on *The Times* defining the position of the journalist, apply with equal force to the student of politics. In 1851 writing to Granville, who was then Foreign Secretary and who had asked that *The Times* change its policy on the Eastern Question so as not to embarrass the Government, Reeve said: "The responsibility of journalists is in proportion to the liberty they enjoy. No moral obligation can be graver. But their duties are not the same, I think, as those of statesmen. To find out the true state of affairs, to report them with fidelity, to apply to them fixed and true principles of justice, humanity and law, to inform, as far as possible, the very conscience of nations, and to call down the judgment of the world on what is false or base or tyrannical, appear to me to be the first duties of those who write. Those on whom the great part of political action devolves are necessarily governed by

[1] See Sir Ernest Barker, Introduction to his Translation of O. Gierke, *Natural Law and the Theory of Society*, Cambridge, 1934.

other rules."[1] Precisely. It is in such a cause that Socrates died. Socrates is the patron saint of students of politics.

The matter can indeed be more starkly put. Tolstoy tells the story of an officer rebuking a brother officer for maltreating a straggling soldier on a march: "Have you not read the Bible?" he asked; to which the rejoinder was: "And have you not read the Army Orders?" The question is, whether the student of politics shall be an expounder of army orders. The danger is as insidious as it is great.

What I am trying to adumbrate here is nothing less than the necessity of a professional code of conduct for the student of politics. The subject of his study being what it is, an affair of compromise, equivocation and often immorality and injustice he must adopt a definite attitude towards it if he is to do his job properly, which is the informed criticism of the exercise of power. And what this attitude must be is, I think, fairly clear: he must be guided in his work by two maxims: the first being that we all are miserable sinners and the second being that a cat may look at a king. The first maxim would caution against regarding political activity as different from other human activities and therefore requiring another *standard* of judgment than that we ordinarily apply. The second would caution against the idolizing of action and of men of action—a weakness to which persons in academic life are, I think, sometimes prone—and consequently the idolizing of irrationality, injustice and such other incidental results of action.

The study of politics is, as I have tried to indicate, something which has flourished only rarely in human history. A consideration of the present situation shows how difficult its prospects remain: in most parts of the world it is non-existent and where it does exist it is constantly menaced by external and internal threats. Against external threats very little can be done by students of politics; against internal threats they can do something the chief of which is to define how the student of politics stands in relation to politics.

[1] Quoted in B. K. Martin, *The Triumph of Lord Palmerston*, London, 1924.

ON MEANING IN LITERATURE

R. L. BRETT, M.A.

In his recent book, *English Poetry; A Critical Introduction*, Mr. F. W. Bateson makes the observation that as romantic criticism is now dead it should receive "decent and final interment." By "romantic criticism" he seems to have in mind either what he calls the Pure Sound theory of poetry, which would have us believe that meaning has nothing to do with poetry, that poetry makes nothing but an emotional or physiological impact upon us; or the suggestion theory which argues that "a good poem should mean very little while suggesting a good deal." Both of these, according to Mr. Bateson, attempt "to justify the exclusion of meaning from poetry." In so far as they do this I share his dislike and am prepared not only to attend the funeral, but to dance on the grave. But is the matter so simple as Mr. Bateson suggests? Let us be sure, before we hasten the obsequies, that we are not counting as corpses some who are still leading an active and useful life. There are writers in what might be regarded as the main tradition of romantic criticism (before the discovery of the unconscious?), who would agree that our first consideration in reading poetry should be its meaning. Coleridge, to name only one romantic critic (though an influential one), would have assented cordially to this; an assent that need not be affected (as I hope to show) by his well-known observation, printed in the collection of his critical remarks entitled *Anima Poetae*, that poetry gives most pleasure when only generally and not perfectly understood. The difficulty arises when we ask in what sense "meaning" is being used. The words "classical" and "romantic" are not very useful in framing an answer to this question. The main stream of criticism has always considered poetry meaningful: meaningful perhaps in different senses, but always with a clear recognition, on the one hand, that it was not just tricking out in verse what was given it by other intellectual disciplines, and, on the other, that it was not a vague emotional state of mind evoked by the sound of words.

The romantic critic was, perhaps, too prone to slip out of the difficulties raised by the question of meaning by an appeal to the imagination. It is not good enough to say with Keats that "what the imagination seizes as Beauty must be Truth." It is not even good enough to speak with Coleridge and Wordsworth of the imagination as "the agent of reason" or as "reason in her most exalted mood." Fine words butter no parsnips even in literary criticism. This is not a criticism of Keats or Wordsworth; still less of Coleridge, who did advance the elements of an aesthetic theory which would account

for the nature and function of poetry. But a good deal of water (some of it, no doubt, troubled and rather muddy) has flowed under the philosophical bridges since his time and, even if we were to hold Coleridge's theory, we should still have to consider how far it answered the questions thrown up by the thinking that has gone on since his day. The most important question, of course, that has to be answered by those who claim that poetry is meaningful is in what sense can it be said to be meaningful. Is it meaningful in the same way that empirically verifiable statements, for example, can be said to be meaningful? There are various ways in which I might attempt to answer such a question. I might, for instance, try to formulate a theory of meaning; but the method I shall adopt is to describe what I believe the poet does when he writes poetry. I would make it clear at the outset that it is not a psychological method, and not in the least concerned with the psychological genesis of poetry. This is not an essay in psycho-analysis, but a less exciting, though perhaps more difficult, endeavour to describe how poetry "works."

My argument is this: that poetry is meaningful in precisely the way that literature generally is meaningful. By literature here I mean something that I can only describe for the moment by the question-begging term "imaginative literature," the meaning of which I hope to have made clear by the end of this paper. The real difference is not between poetry and prose, but between an imaginative and a theoretical way of thinking. Meaning can be conveyed in two ways: by making use of the constructions of the imagination (which may or may not be expressed in words), or by employing concepts. It now remains for me to make my case and I can best do this by describing what I believe to be the difference.

An important part of theoretical thinking, such as history, science, law, theology and so on, is the construction of intellectual models. The scientist, for example, in trying to explain a whole range of individual phenomena by some general principle, starts by constructing a "model." Professor J. Z. Young, for instance, in his recent broadcast talks on mental behaviour, suggested that certain mental and physiological phenomena could be explained by taking as a model a radar set or a teleprinter circuit. A model of this kind seemed appropriate as a basis of explanation because there were certain features common to it and the phenomena he wished to explain; the model having been chosen or constructed, it then suggested to him certain questions which might be asked concerning these phenomena. Such a model is not chosen or constructed at random, it has some "analogy" with the phenomena. It is not in every respect analogous, but suggests questions which might direct further enquiry. Its job is to stimulate and provoke further thought which might lead to the formulation of a general principle.

This very summary account of the place of "model-construction" in scientific thinking need not detain us very long. It is not meant to be a detailed account of scientific thinking; its point is to remind the reader that theoretical thinking very often proceeds by means of question and answer; that this in turn depends upon the construction of models which lead to the formulation of statements; and that these statements will "cover" those features of experience to which the model is in a loose sense analogous. This would appear to be true of all kinds of theoretical thinking and not only of science; in science the statements (the "answers" to the questions) will be subject to empirical verification, but in other fields of enquiry this may or may not be the case.

Now it is clear that there are important differences between this and what goes to the creation of imaginative literature. The fiction (a convenient term which I shall use as an omnibus word to refer to the various "kinds" of literature) can be compared to the model in theoretical thinking. But in literature the writer does not start with a number of phenomena which he wishes to "explain"; he has no problem for which he wants to find an answer. Fiction in one sense can be said to be an end in itself; there is no further purpose which it has to serve. Some people might even say that the writer of fictions is doing something directly opposite to what the theoretical thinker is doing. The theoretical thinker, they might argue, whether he be the historian, the lawyer, the economist or the natural scientist, is concerned with the formulation of a general law which will explain a range of phenomena; the artist, on the other hand, is concerned with creating something individual and unique, with the concrete and particular.

There is obviously some truth in this. If we contemplate the figure of a prisoner in a law court on trial for his life, there is a real difference between the ways in which his situation interests, say, a lawyer and an artist. To the lawyer his case is a particular one that has to be subsumed under some general law; to the psychologist or social scientist he will be one instance amongst many others that have to be covered by some general principle of explanation. To the artist, on the other hand, it is the peculiar and individual quality of his situation that matters. Yet this is not the whole story, for the classical insistence upon general truth, on the need for art to be concerned with more than the eccentric and idiosyncratic, is too firmly established to be ignored. Literature, to be sure, is concerned with the individual, with the concrete and the particular in a way in which theoretical thought is not. But literature does not consist in portraying or representing particular people and incidents as we meet them in real life; it is not just a slice of experience untouched by the writer's mind. Experience is only the raw material of literature; literature

itself, in Dryden's phrase, is "Nature wrought up to a higher pitch."

Literature presents us with a world that is probable, that appears to be real. That it is not real in any sense in which the word is ordinarily used, becomes manifest on a moment's reflection. We do not even deceive ourselves that it is real, for, as Johnson put it: "Imitations produce pain or pleasure, not because they are mistaken for realities, but because they bring realities to mind." Literature declares to us "a golden world," a world heightened and charged with a significance that does not belong to the world of ordinary experience. *King Lear* and *Macbeth* are not merely slices of history which Shakespeare lifted from the chronicles or even from his own experience of men and women. They are particular and concrete in that they tell us of individual men and women, but they have a quality which the nineteenth century referred to as universality, and which led Johnson to call them "just representations of general nature."

Can we analyse this quality more exactly? One thing is clear: it is that plays like *King Lear* and *Macbeth* do not convey a meaning which can be better expressed in terms other than the plays themselves; in philosophical or theoretical terms, for instance. The job of literature is not to advance philosophical theories; this is the job of philosophy and is better done by philosophy. To read Shelley's or Tennyson's poetry as though its value consisted in the cogency with which it advanced philosophical necessitarianism or the Christian belief in immorality is, of course, to make the most elementary mistake about the nature and purpose of philosophical poetry. Equally, *King Lear* or *Macbeth* are not essays in the Elizabethan doctrine of kingship, though an acquaintance with this doctrine will increase our understanding of them. To regard philosophical poetry or poetic drama in this way is to see the "literary element" in them merely as an ornament added to the meaning, not something intrinsic to the meaning.

This quality of general truth or universality in literature is not something, then, that can be translated or expressed adequately in theoretical terms. Literature is not a substitute for philosophy or scientific thought, still less is it a crude and immature attempt to do the job of theoretical thinking. It is not truths taken over from philosophy and given an agreeable dress, nor is it moral exhortation expressed with the persuasive force of literary form. The quality derives from the fact that literature is concerned with a particular sort of particularity. Readers of the nineteenth-century idealist philosophy will now think that the metaphysical cat is about to be let out of the bag, that what I have been leading up to all this time is the old-fashioned belief in concrete universals. Let me hasten to say that this is not so. What I mean can be best explained by returning

for a moment to the model-constructing of theoretical thinking. We have seen that the function of a model in theoretical thinking is to suggest a number of descriptive statements about the phenomena to be explained. The literary artist does not construct a model in this sense, but he does create a particular (an incident, a character or set of characters, some situation, some attitude, etc.) which is related to certain features of experience. The relation is not one of answers to questions, for there are no questions, but the fiction does provide material for the understanding to work on; it provokes thought and can, in this sense, be said to have meaning. The meaning will not be clear and determinate as in theoretical thinking. Coleridge was right when he said that poetry was most successful when not perfectly understood, and Goethe had the same truth in mind when he said: "They come and ask me what idea I meant to embody in my *Faust*; as if I knew myself and could inform them." (*Conversations with Eckermann.*)

Literature will always be ambiguous in the sense that it suggests more than one meaning (not in the sense that it is a confused or muddled form of expression). "Ambiguity" has become a fashionable term in modern criticism, but its necessity has always been recognized in the importance accorded to symbol, myth, imagery, allegory, irony, paradox, and other traditional features which have served to enrich the meaning of literature. It might be argued that the model of the theoretical thinker is akin to the literary fiction in this respect; that it, too, possesses a concrete particularity which issues in a whole series of explanatory statements. But this is to miss the point. The ambiguity of the literary fiction does not consist in the fact that it can be teased out into separate strands of meaning. The value of symbol, myth, and image is not that they can be analysed into several, separate meanings, but that the whole is more than the sum of the parts. Similarly, allegory and irony are most successful when there is more than a simple system of meaning at two levels; more than a series of counters which bear an unequivocal value. Even paradox as a literary device is more than a clear assertion and negation, more than a straightforward contradiction; the two elements are held in a dynamic relation.

At this point I can imagine an objector asking the following sort of question: If the concrete particularity of literary fictions can provoke thought and be said to have meaning, why should not the same be true of the concrete particularity of real life? This question, of course, brings me back to my claim that the particularity of literature is a particular sort of particularity; a claim that I have not yet substantiated. It is true that events in real life may stimulate one's thought and can be said to have meaning. The school-master entering a rowdy classroom and saying, "What is the meaning of all this?" is not

violating English usage. If we go back to our figure of the prisoner in a court of law on trial for his life, it is true that to the ordinary person of sensibility he will provoke thought. Merely as an individual and not as an instance to be fitted into some general classification of theoretical thinking, his plight may force us into reflection about the general nature of human experience and may be more than simply something to be observed. But, even so, this is not sufficient to make us an artist. Only when the scene has been transformed into a fiction does this happen; only when it has been placed in the context of *The Brothers Karamazov,* or Kafka's *The Trial* or Galsworthy's *Justice* does it achieve the particular sort of particularity we have in mind.

There is a coherence, a completeness, an ordered manner of presentation, about the characters and incidents of literature that is lacking in real life. They concentrate and focus our attention; directing it to certain aspects of human experience in a way that does not belong to life itself. Real life, if you like, is a datum, something given; it may, if you so wish to argue, carry with it the interpretative stamp of our own personalities even in the act of our experiencing it. What we call real life, in other words, may be partly (or even wholly) a construction of our own minds rather than something given. But this is irrelevant to the point that I am now making. Even if this were the case, there still remains the fact that the experience we gain from literature is not identical with our experience of life; for the one bears the stamp of two minds, our own and the author's, while the other bears the stamp of our own only.

Literary fiction is more like experience itself than like the manipulation of that experience into theoretical patterns and systems which is the work of philosophy and science. Yet, as we have said, it has a quality which differentiates it from experience itself. It is experience which has been organized; the elements within it have been selected and brought together to provide a pattern that is tidier and more concentrated than life itself. There are no rules which govern this organization, for if there were, literary fictions would cease to have the particularity that is so necessary. As Coleridge said in Chapter XVIII of the *Biographia Literaria;* "Could a rule be given from without, poetry would cease to be poetry, and sink into a mechanical art"; and the same is true, of course, for all fictions. The organization of our experience into literary fictions is not a manipulation of experience for practical ends (as is the "model" of theoretical thinking.) Literature is disinterested in the sense that it is not concerned with practical ends; its purpose in organizing experience is to give aesthetic pleasure and part of this pleasure will be the increase of our understanding, an understanding that will not be purely cognitive, but will include an enlargement of sensibility as well.

Literature is concerned not merely with perceptual or cognitive experience, but embraces these together with our emotional experience. The emphasis will vary, of course, from fiction to fiction, from, say, *Pride and Prejudice* to Browning's *Paracelsus*, from a sonnet of Sidney's to Mr. Eliot's *Four Quartets;* the raw materials may be a straightforward train of events; or a feeling; or certain religious or political doctrines; or a mixture of all these; but the meaning of all of them is of the same kind. By this I do not suggest that they mean identically the same things, but that the meaning of all of them springs from the way in which their particularity provokes thought.

We come now to the heart of the matter. This can be put by considering two questions. On the one hand it might be asked: Is there any sense in talking about meaning at all in a novel such as *Pride and Prejudice*, where there is a particularity about the event and characters described, but where ideas as such seem to be lacking? On the other hand, it might be asked: Admitting that in a poem like Mr. Eliot's *Four Quartets* there is a body of ideas—beliefs, doctrines, etc.—and that meaning can be attached to these, is there a sense in which these ideas form a part of its particularity? The answer to the first of these questions, I think, will be plain from what has already been said. The events in a novel such as *Pride and Prejudice* will provoke our understanding in something of the same way that real events do. They will do this to a greater degree than those of real life because their creator has already sharpened their outlines; because she has cut out irrelevant elements and invented others that were lacking in actuality. She has already, if you like, given our thinking an initial impetus by organizing them in a certain pattern. This pattern will itself, incidentally, contribute an important part of our pleasure; but it is a pattern for which there is no recipe, no prescription, no set of rules governing its creation. The elements in this particular pattern, *Pride and Prejudice*, are the subtle and intimate relationships that exist between people, and these are not likely, of course, to lead to precise and easily defined knowledge. But the unity into which Jane Austen fuses the elements (the particularity that emerges from the raw material), certainly enriches our understanding, and especially at the point where the understanding merges into sensibility. The meaning of literature, then, is a product of its particularity, a particular sort of particularity that provokes thought.

The answer to the second of these questions is not so simple. How can fictions which use as their material thoughts and ideas, themselves be said to have the sort of particularity which will provoke thought and give birth to ideas? The answer to this lies in the distinction which can be made between knowing something or somebody and knowing *that* so-and-so is the case. The knowledge we

derive from theoretical thinking is the sort of knowledge that can be expressed in statements; it is the knowledge that such a situation exists or that this is true and that false. Our knowledge of persons and events is quite different; it is knowledge by direct acquaintance; a matter of being confronted by those persons and events which does not depend upon statements or upon words. Now it is possible, I believe, to know ideas, theories, and doctrines, and so on, in this way. In so far as literature traffics in these things, its main purpose is not to convince us of their truth or falsehood, nor to explain them to us as a matter of intellectual comprehension. We know them in literature as they are related to the writer or to one of the characters in the fiction; it is not their truth or falsehood in general terms that holds our attention, but the way in which they are held or rejected by the author, or as they throw light upon characters or events in the fiction. It is this which gives them their particularity. They may even, within the framework of the fiction, be treated ratiocinatively if this contributes to the particularity of the whole, as, for instance, in such a poem as *Bishop Blougram's Apology*. There is a difference between the way in which the Christian doctrine of immortality or the Christian understanding of the relation between time and eternity are treated in, say, Tennyson's *In Memoriam* or Mr. Eliot's *Four Quartets*, and the way they are presented in a theological dissertation; a difference which can be explained only by such a theory as I have advanced. A harder example to explain might be such a poem as Pope's *Essay on Man*, where there does appear to be nothing but an argument in verse. But here, surely, the literary value of the poem gains nothing from the cogency with which Pope *argues* the case for philosophical optimism. The importance of the philosophy lies in the fact that it enables him to give his experience a certain unity and to present us with a picture of reality that is a particular picture. It does not matter whether he is a good philosopher or a bad one; whether we accept the philosophy or reject it. The intellectual content of such poems will, of course, stimulate us to theoretical thinking; but such thinking is the outcome of the poem's particularity and not a part of the poem itself in the sense that it exists as a finished product in the poem.

The meaning of literature will be different from that of, say, a diagram or map which tell us that if we follow the red line we shall arrive safely at Paddington, or that if we follow the footpath to the left, we shall pass a windmill. It is a meaning that will never be precise as meaning conveyed in statements will be, though this does not mean that it is confused and muddled. It is more like the meaning that can be assigned to events; different constructions can be put upon the particulars by different people, and even by the same people, just as they can be upon events. It is a meaning, in fact, that

is infinite in the sense that the commentary on the particulars may be endless; the task of interpretation is never finished (something we know sometimes to our cost, as in Shakespearian studies).

The literary devices used to achieve the literary particularity that leads to thought will vary from fiction to fiction and none will be peculiar to one "kind." In drama it may be expressed through physical representation, and to this extent the drama is a non-literary form. In other more literary fictions it will depend upon words. It seems to me that here no holds are barred to literature. No doubt in the sort of poetry that is generally referred to as lyric, the sort that expresses a state of mind, there will be an emphasis upon metaphor, image, simile, analogy, and other devices which hold together in unity the complex balance of thoughts and feelings which go to make up such a state. Even here, however, statements of fact, notions and concepts, may all play a part in expressing and making manifest the state of mind. Take, for example, the following sonnet of Shakespeare's.

"That you were once unkind befriends me now,
And for that sorrow, which I then did feel,
Needs must I under my transgression bow,
Unless my nerves were brass or hammered steel.
For if you were by my unkindness shaken,
As I by yours, y' have pass'd a hell of Time,
And I a tyrant have no leisure taken
To weigh how once I suffered in your crime.
O that our night of woe might have remember'd
My deepest sense, how hard true sorrow hits,
And soon to you, as you to me then tender'd
The humble salve, which wounded bosoms fits!
But that your trespass now becomes a fee,
Mine ransom yours, and yours must ransom me."

It is clear that there is a logical structure here; or at least there is an argument, just as there is in so many of Donne's poems. The reader has to submit to a process by which his thought is carried forward from one stage to another and each stage is important to the argument. Yet it is also clear that it is not a piece of theoretical thinking. What logical structure there is is all part of the larger purpose of presenting the feeling that Shakespeare has towards his patron at this time. What then does the poem mean? It certainly does not mean a prose paraphrase running something like this:

"The fact that you were once unkind to me now comes to my assistance. The sorrow I felt when you hurt me now makes me conscious of the pain I have given you. If you have felt as much pain because of me as I did because of you, then you must have suffered a great deal. I simply did not pause to realize that you must have been experiencing what to me was so terrible. I wish that the memory of this had made me realize how badly you must be hurt, and caused me to ask your pardon as promptly as you sought my forgiveness. We have each offended the other and our two offences cancel out."

Neither this nor any variant on similar lines can hope to do more than approximate to the meaning of the sonnet. The purpose of the statements which go to make up the poem is not merely to propound a series of meaning-units each complete in itself. Their purpose is the creation of a particular; the expression of the poet's state of mind; his thoughts and feelings at a certain phase of the relationship between himself and the person addressed. It is not a real state of mind—real, that is, in the sense that Shakespeare simply introspects (we have had to wait until the twentieth century for that sort of thing)—but pattern and shape have been given to the raw material to make it consistent with the occasion and the literary form. The meaning—the full meaning—of the poem will be the communication of this state of mind to the reader's mind. I do not mean that the poet's mental state is re-created in our minds, but simply that we become sympathetically aware of it; we entertain it and our understanding is enlarged by it. The knowledge the poem gives us is not of the kind, *that* so-and-so is the case, but the knowledge that comes from acquaintance. We are made aware of the poet's mind in something of the way we come to know a person by listening to his conversation; each sentence he speaks may be itself a unit of meaning, but the total impression made upon us is more than the sum of these units; it will be marked by a roundness and completeness that are the full result and force of all he has said *taken together.*

I have dealt with this example at such length not merely as an illustration of my theory in general, but because it demonstrates that the meaning of even lyric poetry may depend upon a logical structure, whereas many modern critics seem to me to suggest that it can be conveyed only by image, metaphor, and the like. In narrative, dramatic and (for want of a better word) philosophical fictions (whether prose or poetry), the meaning, as I have already indicated, may be the outcome of a series of events, a character or group of characters in some situation, or even an intellectual theory so long as it does not demand merely logical comprehension. But in all these instances the meaning lies in the enlargement and stimulation of our understanding by the sort of particularity I have attempted to describe. Romantic criticism in stressing the need for literature to deal with particulars endorses one aspect of this; classical criticism in stressing the general truth of literature bears witness to the other. Can it be that both are right?

University of Bristol.

USE AND MISUSE OF THE UNKNOWN

ERIC UNGER

1. THERE is, naturally, no more ambiguous factor in all human knowledge than the possible bearing of what we do not know on what we do know.

2. We know, or at least we presuppose with certainty, that there is a vast domain of reality which we do not know. We call it the unknown.

3. The limits of our knowledge are not sharply drawn boundaries but, as it were, broad zones of increasing dimness or decreasing visibility, marked by ever-growing scarcity of known facts, which passes finally into the blackness of complete ignorance. Yet we are fairly certain that this region of subjective ignorance does not just signify an objective nothing, but denotes some reality even in that it is unknown. All our expectation of future experience and of future enlargement and deepening of knowledge rests on the presupposition that there is unknown reality which can never be exhausted by experience and knowledge.

4. The assumption of unknown reality is not a peculiarity of a particular philosophical current called "realism," which makes a distinction between what exists and what we know; it is shared by almost all philosophical tendencies. It must not be confused with any belief in the existence of a "thing in itself." For although the concept of a thing in itself stands for something unknown, the unknown is no equivalent for the thing in itself; and it is presupposed in phenomenalism no less than in realism or any other theory that envisages a progressive enlargement of limited knowledge.

5. Unknown reality means an object unsuited to be known in the sense of scientific knowledge and certainty, but it does not mean an object that is out of reach of any cognitive activity whatsoever.

6. The unknown may, for instance, appear under two different aspects: first, the unknown in the time-direction of the unlimited past and future of the universe, and second, the unknown with regard to the structure or constitution of the All of reality, such as has been the object of all philosophical conceptions and systems.

7. These latter show that there are rational methods of approaching the unknown, even though it may remain an open question whether or not they will lead to satisfactory results.

8. Intuitive awareness of the paradoxical circumstance that we know (in a formal way) of something vastly greater than what we know (in a material way) results in a mystical aspect of reality. This aspect, which is revealed by our cognitive faculties, is also

reflected in our emotional faculties, much as the known world is reflected in the whole mind, intellect and emotions, at the same time.

9. There are, as it were, direct and unavoidable ways by which the intellect, pursuing the directions leading onward from the known, finds itself led by normal reasoning into the domain of the unknown; and of this domain it forms conceptions which are rational even though they contain imaginatively produced features. These features result from the rational attempt of the mind to fill in what must be left undetermined simply because the conceptions extend into the unknown.

10. Conceptions of this kind are of a nature which is simultaneously rational and mystical. Typical examples are God, the One, the All of reality, Infinite Being, the Absolute, the World-Soul, and their attributes. It is characteristic of all these conceptions that the human mind would have arrived at them in any case by following the path indicated by its own natural and reasonable questions and, above all, even if it had never heard of such conceptions through any agency that reaches the mind from outside, such as tradition, religion, or mythical poetry.

11. Since these conceptions emerge in a natural way, their *natural* emergence in the human intellect, and above all the emergence of the idea of God, needs to be elucidated. The activity of the mind which is concerned with any such conception may be described as a *rational* mysticism. A sort of rational mysticism forms the concluding part of every philosophy which does not break off its research where science stops, namely at what either already is or in future can be known with certainty. The field of problems and tentative answers of rational mysticism contains not only the task of elaborating and clarifying the nature of the ultimately real and its attributes but also the problem of the relation of the ultimately real to the known world. A familiar way of expressing this problem is, for instance, in terms of the relation of God to the world and to man.

There is much to be said in favour of adopting the name "rational mysticism" for a certain type of cognitive activity which normally goes by the name of ordinary philosophy, as for example in the systems of Plato, Hegel, Whitehead, and others. It would clarify issues if what is put forward by every kind of positivism as an objection against the ultimate concepts of philosophy were frankly admitted, namely that concepts such as God, the One, and the Real *are* of a mystical character, and that they are starting points for reflections which always carry with them a mystical element. This admission would end the sterile dispute about the "scientific character" of philosophy. The Whole of being is no scientifically expressible object, for it is neither an object of experience nor one of formal logic; and yet it is not nothing, and it cannot simply be left out of

account. The agnostic attitude towards it is only relatively justifiable, that is to say, it is adequate for science only. The need for science itself cannot be justified by science, but can only be justified in the more comprehensive sphere of rational *motives*. But this being so, the agnostic attitude could just as well be extended to science, and nothing is to be gained by trying to show that there can be no other form of rational cognition than that elaborated by and applied in science. For there is certainly a rational imagination which reaches far beyond the range of the use that it has within science.

12. All criteria of rationality of the procedures of rational mysticism originate in the capability of reason to discipline imagination without killing it, or without even reducing its power. For there is no other faculty of the human mind which can deal with the unknown but imagination, and no other rational way of dealing with the unknown but that of imagination controlled and systematized.

13. The following are some features of this control:

(*a*) The activity of imagination must be restricted to the domain of the unknown, and its products must not clash with the contents and constitution of the known world.

(*b*) Any system which reasonable imagination may devise in order to embrace the known and the unknown must not only be a coherent one, but the order and constitution of the known world must also form a relevant and essential component of the all-embracing system.

(*c*) Imagination (which is not to be confused with reason in the Kantian sense) cannot be permitted to point to any fact, even one which cannot be disputed, giving information about the unknown, unless this fact belongs to a *class* of facts capable of being fitted into or integrated with the order of classes of the known world. For something is either a normal fact, and belongs to the known world, or it is not. In the first case two possibilities arise. (i) As far as the known is concerned, imagination is not competent. (ii) As far as the unknown is concerned, imagination can base its constructions on a fact only if this fact is set and seen in the ordered context of all classes which form the known world. The reason is that since the unknown is a whole (see 6 above) the structure of the known must also be taken into account as a whole in order to suggest some feature of the unknown, and any specific fact can only be considered in so far as it contributes to the determination of the ordered structure of the known. If, on the other hand, the fact is not normal it is a unique fact, i.e. a fact which does not belong to any class and purports on that account to give information about the unknown. Then imagination is competent, and must be called upon in order to realize the relation between the fact and the unknown. Now any fact, even a non-imaginary one if one may say so, considered in isolation is

irrational; and this irrationality diminishes in the same proportion in which the complex of classes or the system in which the fact finds its place increases. Thus the reference to isolated and unique facts purporting to give information about the unknown is not the expression of rational and controlled imagination but of an imagination that is irrational, i.e. not controlled by intellect.

14. These methodological considerations and safeguards in the use of the faculty of imagination for the wider aims of knowledge are but a few from among the great complex of epistemological conditions regulating the relations between imagination and what is ordinarily called reason. They form, however, the first indications for a line of demarcation separating rational mysticism from irrational, i.e. mysticism controlled by intellect from mysticism directed by emotion, or religious reason from mythology. For irrational mysticism is nothing but imagination running wild on the impulse of emotion in the domain of the unknown.

15. It is of the utmost importance not to admit any antithesis between an allegedly non-mystical reason and a higher knowledge from some mystical source; but we must draw a line between two sorts of orientation both of which contain a mystical element. Trying to oppose reason to mysticism without relating them to each other gives rise to untreatable problems on both sides, and it is like drawing a line between light and shade and trying to explain each in its own terms. Distinguishing, however, between the two kinds of mysticism, the rational and the irrational, leads to the realization that the two mysticisms are not just one more pair of equally justifiable opposites, or thesis and antithesis between which a discussion could go on without end, but that rational mysticism represents the synthesis between two enternal adversaries, cheap rationalism and irrational mysticism, which are well known for their unending disputes.

16. The establishing of the position of rational mysticism is very important for the following reason. There is a sort of irrational mysticism which, having for emotional reasons secured the acceptance of a number of statements derived from an allegedly suprarational source, resorts in its turn to giving the natural impulse of reason its head. It evolves around the inner and isolated system of irrational assumptions a vast complex of completely rational knowledge and research which, through being associated by the external cover of a common name with the inner irrational kernel, transfers something of its own reasonableness to the latter and gives to the whole compound of inscrutable assumptions and normal activity of reason the appearance of a rational mysticism. The common name for this well-known cultural phenomenon is "philosophy of an irrational faith." The difference between this seemingly rational but

in fact irrational mysticism and the genuine rational mysticism is that in the case of the latter the working of imagination is not only openly admitted but methodically employed in organic co-operation with the other cognitive faculties of the mind with which it forms a systematic whole, whereas in the case of the irrational mysticism what would seem to be the product of imagination is justified by referring its origin to a source extraneous to the normal reasoning of the mind.

17. If the imaginative faculty is excluded to a greater extent than is permissible from the work of reason, fragmentarily distorted aspects of many philosophical matters inevitably result. It is against these results of a superficial rationalism that the rational tendency contained in irrational mysticism wins a great many easy logical victories, which add to the credit of irrational mysticism. All such logical and philosophical triumphs which are legitimately won, i.e. won without making use of the typically irrational content of irrational mysticism, recommend it and add to its reputation as the only alternative to the crudities of unimaginative rationalism. As the philosophy of an irrational faith shares its purely cognitive and rational tendencies with rational mysticism, it is all the more urgent to show that irrationalism is neither the only nor the true remedy for these shortcomings of a rigid rationalism. The shortcomings are not due to the fact that reason needs to be supplemented by a kind of information beyond reason but to the fact that it lacks the full and systematic use of its imaginative powers, the place of which is taken by the contents of an irrational faith as a substitute.

Summary and Conclusion

18. Rational mysticism is the name for the activity and range of unmutilated reason itself, i.e. reason in so far as it neither abhors the unknown nor believes itself forced to assume an agnostic attitude towards it. That is to say, it is the name of reason in so far as it attempts to call upon and to systematize fully the faculties of imagination which belong to it.

19. Omitting to satisfy this side of the impulse of reason leads to two opposite errors: (*a*) the error of a sort of rationalism which springs from the mistaken belief in an obligation to exclude the possibilities of imagination, entirely or for the greater part, from the realm of knowledge, and which betrays by its shallowness that it has not fulfilled and is not going to fulfil the task of reason; (*b*) the error of irrational mysticism which satisfies the demand of human reason, which is not made and is not willing to leave the unknown out of account, by supplying a complex of extra-rational contents of specifically religious or generally mystical character. Whereas the

results of rational mysticism are obtained by mere reasoning and are entirely of the nature of universals, the contents of irrational mysticism are of the nature of sensuous representations, concrete personalities, stories, etc., which are obtained in a quasi-empirical way (revelation, tradition, individual experience).

20. Irrational mysticism originates in the extreme difficulty of managing the powers of imagination for the aims of reason and of finding the right marks of the extent to which they must be admitted. The tenets of an irrational faith are the symptoms of the suppression of the legitimate use of imagination in thought. Rational mysticism is characterized by the absence of any possible conflict between faith and knowledge, without suppression of the natural motives of either.

DISCUSSION

A SHORT NOTE ON ULAM'S "PHILOSOPHICAL FOUNDATIONS OF ENGLISH SOCIALISM"

At page 85 in the 1951 Harvard University Press edition of his *Philosophical Foundations of English Socialism,* Adam B. Ulam makes a statement which prompts me to offer some very tentative comments. He says: "The State as an organization of power is much stronger than any group within it. If we have to have continuous conflicts between its will and 'other' wills, there is no doubt which one will emerge victorious." I need not describe the context further than to say that the statement is made in the course of a discussion on Pluralism; but it might equally well have been made anywhere in the book.

I wish to challenge the validity of that statement, not in any hostile sense but with a view to pointing out the need for a great deal more work on the philosophy of the State. And, before I go any further, may I commend Ulam's book as a most helpful contribution to social and political philosophy and express the sincere thanks of one British worker to a painstaking and well-informed American teacher.

Far from being stronger than any group within it, the State in our day is often noticeably weak. Countless examples could be given in which one will was opposed to the will of the State but in which the traditional view that the latter would prevail was not confirmed by events. One could mention for example the major wage demands by railway men, dock workers and other highly organized industrial groups. When in the course of negotiations those demands were resisted by the relevant State Boards in accordance with declared State policy, the expectation of most people probably was that the Government would support its administrative organs and make its will felt and possibly even enforced. But in many instances no such result occurred. Instead, the Government, after making its will known, in the end dissuaded the Boards from further resistance and placated the industrial interests. Various explanations may be put forward—fear of unrest, fear of strikes, Trade Union sympathizers in Government office; similarly, varying opinions may be held on the wisdom of the concessions ultimately made. But explanations and merits apart, the fact is that the declared will of the State did not prove stronger than the "other" will.

What then has been happening? In my view the fundamental point is that it is no longer possible to distinguish as clearly as the text-books would have us believe between the will of the State and "other" wills. Those "other" wills are now partially merged with the will of the State; those other interests are now largely merged with the interests of the State. The great number of public boards and lesser authorities; workers' representatives on State Boards; medical men on Regional Hospital Boards—the very bodies which actually employ them, where they wield the power of the State over the fortunes of their colleagues and indirectly over their own: all these features and many, many more are commonplaces of our social and economic organization to-day. Far from there being, as Ulam says, no doubt which will is going to emerge victorious, there is, I submit, every doubt. Indeed in certain situations the doubt dwindles again—as the power and influence of the "other" will grows; in other words there is sometimes little or no doubt that the will of the State will emerge defeated.

This phenomenon is not at all the same thing as the situation in which, say, a land-owning class seek and obtain political power *in order to* confer certain benefits on their class. A distinction has to be drawn between that situation and the one I am trying to describe, in which the Government of the day—whatever its complexion—declares its intention of following a certain line but finds itself defeated again and again by deliberately organized economic, industrial or professional forces.

One might contend that Ulam's statement was related not to the ordinary everyday give and take of wage demands and so on but (as he makes clear) to the State *as an organization of power*. I still hold that my observations are relevant even in this strict connotation for power, even the power of the State, is not to-day a matter only of police and prisons or even of income tax demands but also a matter of settling and enforcing remuneration, conditions of service, working conditions and so on. And it is precisely in these fields that highly organized pressures—say, for example, the "Important Notice" procedure of the British Medical Association—can defeat the power of the State.

What I am trying to suggest can be summarized as follows: in many fields of public services and particularly the social services, the traditional view has feared that the State would alter medicine, the law or whatever service was under discussion; in fact there is ample ground for asserting that medicine, the law and so on have altered the State.

The moral of what I have to say lies in what Ulam does not do (and does not pretend to do) in his book. He considers at length the foundations of English Socialism and only at the very end devotes a few pages to considering in the merest outline one or two of the principal social services. There is a great need, I believe, for the application to the social services as they operate around and upon us to-day of some of the learning and skill which Ulam (and others) have applied to their history and their foundations. I offer the forecast that the results would be such as to compel us to change many of our traditional conceptions of liberty, equality and the State. If philosophy is to help to interpret the world around us, we philosophers must spend more time examining that world.

DANIEL NORTHMAN.

NEW BOOKS

Encounter with Nothingness. An Essay on Existentialism. By HELMUT KUHN, Professor of Philosophy at Erlangen University. With a Foreword by Martin Jarrett-Kerr. (Methuen. 1951. Pp. xxii + 168. Price 8s. 6d.)

It is no easy task to write a serious descriptive study and criticism of existentialism which will be at the same time intelligible to the general reader, brief without relapsing into superficiality, and careful to allow for the very considerable differences between the various representatives of what is a movement of thought rather than a philosophical system. To expect a perfect blending of all these elements would be to expect too much. But Professor Kuhn's book is certainly one of the best general works on existentialism which I have come across. He writes with a wide and deep knowledge of his subject, and he treats it in a lucid and stimulating manner. His standpoint is Christian; but this does not mean that his book is either a blindly unsympathetic attack or an edifying moral discourse.

The book centres round the idea of crisis, conceived as "an encounter with Nothingness, that is, the privation of meaning and reality." This idea of crisis is, the author maintains, paramount in existentialism and essential to it; and he traces the forms taken by this root-idea in the leading existentialists from Kierkegaard to Sartre. The existentialists try to break through smugness and complacency of mind by destroying the traditional conceptual framework of European culture, by voiding the world and human existence of all objective "meaning," and by convincing man of his absolute freedom. He finds himself as "condemned to be free" in a universe which, as far as objective reason is concerned, is impenetrable, meaningless and alien. One of the main reasons why many people, especially in countries which have not been shaken by sudden political and social catastrophe, find existentialism bewildering is that the encounter with "Nothingness" is not an experience which they have themselves undergone. The existentialists, however, seek to produce this experience. Their thought tends towards nihilism. "Modern Existentialism is the quintessence of the nihilistic poison exuded by the ailing mind of Europe."

If one interprets existentialism in this way, it is obviously difficult to regard a philosopher like Marcel as an existentialist. And in point of fact Professor Kuhn relegates him to the periphery of existentialism. A more general objection against the foregoing interpretation would be that all the existentialists offer ways of escape from crisis. Kierkegaard invites us to make the leap of faith; and so does Jaspers, though in a less obviously theological setting. Heidegger advances to a philosophy inspired by the poet Hölderlin; and even Sartre tries to make his ethical theory respectable and capable of bearing the weight of ideas like social responsibility. Professor Kuhn is, of course, perfectly well aware of all this, and he draws attention to it. In his opinion, however, the existentialists, in passing beyond crisis, pass beyond existentialism as well. "It is one of the characteristics of Existentialism that its adherents are continually on the verge of apostasy." Again, "Sartre's ethics clearly defines a position not only beyond crisis but beyond Existentialism."

This line of criticism might very well prompt the following retort. If existentialism is defined in terms of crisis, the various escapes from crisis provided by the existentialists certainly pass beyond existentialism so defined. But would not every existentialist regard his proffered way of escape

as part and parcel of his brand of existentialism? One is not entitled to cut off half of a theory and to define the whole in terms of the part. If one defines existentialism in terms of a part only, one's judgment concerning the whole cannot be adequate, unless, of course, all the parts are exactly similar. But Professor Kuhn's point is this. In any existentialist philosophy considered as a whole there is crisis and the resolution of crisis, descent and ascent. If, on the one hand, there is a rational continuity between crisis and its resolution, the crisis is no longer a crisis as depicted by the existentialists. If, on the other hand, there is no rational continuity, the philosophy falls into two unrelated and incompatible parts.

The fact that Professor Kuhn dwells on the more dramatic aspects of existentialism does not mean that he is blind to other aspects. For example, the contribution of phenomenology to the philosophies of Heidegger and Sartre is briefly but acutely analysed; and he rightly remarks that the descriptive analyses of Sartre "belong amongst the finest specimens of phenomenological research." But I should hesitate to accept the statement that "only through the fusion of Kierkegaard's crisis with phenomenological intuition did Existentialism develop into a philosophically significant school of thought." According to the author, Karl Jaspers owes "little or nothing" to phenomenology. Yet Jaspers' system is, in my opinion, certainly "philosophically significant."

Kierkegaard was professedly anti-philosophical. And his thought, being largely autobiographical, was, I should say, the chief example of "existential thinking." But once a general philosophical theory of existence is advanced (and definite steps towards it can be seen even in Kierkegaard), it is at least arguable if one is entitled to speak any more about "existential thinking." A general theory about existence, involving a theory of crisis and a theory of escape from crisis, may very well be faced, as Professor Kuhn suggests, with a dilemma. If the crisis is a real "encounter with Nothingness" and the escape simply a wild leap in the dark, the escape is a sham escape. If, however, the escape is seen to be rationally justified, the crisis cannot be "an encounter with Nothingness." It is a bogus crisis. And in this case there is no adequate reason for trying to produce it. If the existentialist is not trying to produce it but rather to rationalize it, the question might be asked, as the author does, whether a rationalized crisis is a crisis at all.

FREDERICK C. COPLESTON.

A Critique of Jean-Paul Sartre's Ontology. By MAURICE NATANSON. (Lincoln, Nebraska: The University of Nebraska Press. 1951. Pp. vi + 136. Price $1.00.)

This is No. 6 in the new series of University of Nebraska Studies. In the first part the author gives a useful and succinct exposition of the contents of M. Sartre's main philosophical work, *L'être et le néant*, while the second part is devoted to an evaluation of Sartre's theory. In his Introduction Mr. Natanson rightly says that "Sartre's problem is one of technical philosophy and not of literature or quasi-philosophy." This problem is described as the problem of Being or the search for Being. As Sartre begins from the Cartesian standpoint of "subjectivity," allied with Husserl's idea of intentionality, his analysis takes the concrete form of an investigation of consciousness, the *pour-soi*, and of the object of consciousness (that is, pre-reflective consciousness), the *en-soi*. Many people would say that any such investigation must be carried on by psychology and other particular sciences.

But Sartre has in view a prior investigation, that is, an investigation into ontological structures presupposed by all the particular sciences. The method pursued is, according to Sartre, the phenomenological method, and the subtitle of *L'être et le néant* is accordingly *Essai d'ontologie phénoménologique*. In Mr. Natanson's opinion, however, the method which Sartre observes in practice is not that of Husserl, even though he starts with Husserl's concept of intentionality. The method which is actually used by Sartre can sometimes be called "phenomenological," provided that one understands by this the method used by Hegel in the *Phenomenology of Mind* rather than the method of Husserl; but at other times the method employed is not phenomenological in any sense; Sartre makes use of psychological analysis and existential psychoanalysis. Mr. Natanson emphasizes also Sartre's indebtedness to Heidegger, from whom he borrowed the idea of "revelation." Appearance is Being, which reveals itself to intuition. This departure from the phenomenological method of Husserl leads to a failure to solve the problem of Being. Mr. Natanson argues that "the logical conclusion of Sartre's own ontology is an unbridgeable dualism of *pour-soi* and *en-soi*."

The author is, I think, quite right in saying that Sartre abandons the precise method elaborated by Husserl. As he observes, Sartre does not observe the *epoche*. Moreover, Sartre considers that Husserl's method leads ultimately to transcendental idealism, whereas his own existentialist philosophy is not pure idealism, though it has idealist elements. And it may very well be that the dualism which is to be found in Sartre's philosophy is connected with his abandonment in practice of the phenomenological method as preached by Husserl. But though it may be a fact that Sartre is unfaithful to Husserl's method, it does not follow that this method would be of any great use for the sort of investigation which Sartre engages in. Mr. Natanson seems to think that Husserl's method could profitably be used in ontological investigations, though he refrains from making any categorical assertion on this matter and is content to leave the question open. For my own part, I am inclined to think, with Sartre, that a consistent use of Husserl's method in ontology would lead ultimately to transcendental idealism. It is true, I think, that Husserl repudiated the development given to phenomenology at the hands of Heidegger; but I would suggest that Heidegger's abandonment of the *epoche*, in which he is followed by Sartre, points to the insufficiency of the Husserlian method in ontological investigation. As to the accusation that Sartre's analysis of Being leads to dualism, this means, I take it, that Sartre descends to the "ontic-empirical" level and is content with the dual existence of the *pour-soi* and *en-soi*. But perhaps this is all to the good. The origin of the *pour-soi* is a problem which Sartre relegates to metaphysics: ontology, being for Sartre in some sense a phenomenological study, is concerned only with the analysis of what is given. And empirical data are apt to be recalcitrant to dialectical tricks of synthesis.

The author complains that Sartre fails to give an "ontological proof for the existence of the Other," which is presented simply as an empirical fact. But it seems to me questionable whether any "proof" of the existence of "the Other" is required. In so far as it is ever required, it is required presumably because of the initial adoption of a Cartesian starting-point, which might well be abandoned, in my opinion. But if something is an empirical fact, why should a "proof" of its existence be required? And how would the use of Husserl's method help to provide any such proof?

Mention is made by the author of Professor Ayer's suggestion that the existentialists misuse terms and make statements which are literally meaningless. Many of Sartre's statements are certainly extremely difficult to

understand, and Mr. Natanson obviously experienced difficulty in translating some of them, a difficulty with which one has the fullest sympathy. But Sartre might argue that he has disclosed fresh aspects of reality, in the description of which language has to be manipulated in a strange manner. All the same, I mistrust his use of, for example, the word "nothingness" in his analysis of the self. And Professor Ayer has pointed out a difficulty attaching to Sartre's use of the word "freedom," a difficulty, moreover, which is by no means dependent on a previous assumption of positivism. Mr. Natanson makes the suggestion that "Sartre might claim that his 'phenomenological' method offers the possibility of verifying the propositions concerning Being and Nothingness which he formulates." I agree that this would be one way of meeting the language difficulty, provided, of course, that the validity of M. Sartre's insights can be satisfactorily shown.

FREDERICK C. COPLESTON.

The Human Use of Human Beings. Cybernetics and Society. By NORBERT WIENER. (Eyre & Spottiswoode, London. 1950. Pp. 241. Price 18s.)

This is a remarkable and highly significant book. The only reason for not attempting to give a more lengthy notice in this journal is that the author does not himself deal directly with the philosophical aspects of his subject. This certainly possesses important aspects of such a kind and Professor Wiener is eminently well qualified to expound them. However, since he has not yet chosen to do so, it would be too great a task, as well as a somewhat presumptuous proceeding, to try to say much about them in an ordinary review.

The sub-title of the book is "Cybernetics and Society," and its first chapter is entitled "What is Cybernetics?" This "name signifies the art of pilot or steersman" and Professor Wiener gave it to the subject of his now famous earlier and more technical work *Cybernetics, or Control and Communication in the Animal and the Machine* (Cambridge, Mass.; New York; Paris, 1949).

The control concerned is, in fact, all forms of control in terrestrial affairs—control by man (or animal) of his own body or of another man or of a machine, or control by a machine of man or of another machine. The author points out that this control is the sending of messages that modify the behaviour of the person (or animal) or machine which receives them. The messages may be nervous messages in the body, messages conveyed by speech between individuals, messages conveyed by radiation to machines equipped with "sense organs" in the form of thermo-couples or photo-electric cells, and so on.

A machine running by the most elementary form of clockwork is effectively uncontrolled. A simple example of control is that exercised by the governor of a steam engine. (In fact "governor-gubernare-*κυβερνᾶν*" suggested the term "cybernetics".) Much more elaborate control is realized in modern electronic computing machines—the so-called "electronic brains"—and similar devices employed for purposes other than computing. Such a machine is endowed with a "memory" and to some extent with power of "judgment," and, through the operation of "feed-backs," controls the performance of itself or of other machines in accordance with its own actual "experience."

The book is primarily an inquiry into the effect of the employment of these machines upon the future of mankind. As he says, Professor Wiener contemplates their producing a second industrial revolution with far more profound consequences than those of the first such revolution.

The effect of the first revolution was that machinery largely replaced man as a source of mechanical power. Machinery came to do the things that man

had previously to do by muscular effort. But man was still required to tend and control the machinery: he was required as much as ever as a source of brain-power.

The result of the new revolution, as foreseen by Professor Wiener and, indeed, by others too, will apparently be that the new machines will largely replace man as a source of brain-power so far as low-grade mental operations are concerned. It is, in fact, already possible in principle to use these machines to control practically all the "orthodox" machines in a mass-production factory. The factory could in principle be run by a few experts employed in "taping" the control mechanisms, i.e. in giving them their instructions in an appropriate code. The latter task actually calls for intellectual powers of a very high order.

Such, however, is only the start of the potentialities of the new machines. At the other end of the scale, Professor Wiener discusses some of the terrifying possibilities of the *machine à gouverner* envisaged by Père Dubarle (*Le Monde*, December 28, 1938) as perhaps controlling a future World State.

Foreseeing these possibilities with all their evident consequences for the organization of society, Professor Wiener is profoundly concerned that human beings should use these new powers and organize their society in such a way that "man can live and grow to be a human being in the fullest and richest sense of the word"—hence the title of the book, and hence, in fact, the writing of the book itself.

As regards the central theme of Professor Wiener's book, his views of future developments may strike the reader as being in some respects over-simplified and unrealistic. There are bound to be unforeseen factors, perhaps shortages of materials, perhaps changes in human wants, perhaps political changes and perhaps even spiritual movements, some of these factors probably arising out of applications and developments of the new techniques themselves, that will complicate the trends in ways that we cannot now even imagine. Nevertheless, the consequences may be all the more insidious by being less simple, and a possible element of over-simplification in Professor Wiener's estimate of the situation may not be without its advantages. It enables him to give a more clear-cut warning which mankind, and in particular those who guide the destinies of their fellow-men, and above all those who like the author are actively engaged in furthering the new techniques, can ignore only at the peril of the future of our race.

To come to the structure of the book itself, it must be admitted that this is somewhat confusing. The chapters form a series of essays upon diverse aspects of the subject rather than an orderly development of the subject itself. This is partly, no doubt, because the subject as treated by Professor Wiener impinges upon practically every other branch of knowledge and of human activity. So we find him expounding relevant departments of physiology, economics and sociology, analysing the history and mechanism of language, and delving into many other topics, as well as propounding his solemn warnings about our future destinies. Even in discussing the new machines themselves he sometimes has to explain the fundamental principles of their operation in the most general terms possible, and sometimes to describe their possible very particular uses, for instance as possible hearing-aids for the totally deaf. Even if the arrangement of the whole is a little confusing, there is certainly nothing confusing about each separate argument which is presented with the utmost force and clarity.

There are, of course, several *Leit-motifs* in the whole work. In the first place, the intimate connection between control and the sending and receiving of messages means that there is recurrent consideration of the basic principles

of *communication*. As is known, these principles are at present being developed into something approaching a science in its own right.

Then, as the author says himself, "In every chapter we are studying either those respects in which the machine duplicates man, or those aspects of man which appear clearer in view of our study of the machine, or both." This appears to be where the most interesting and novel philosophical implications will be found. Many philosophers will probably want to read the book and ponder these implications for themselves, and that is what one would like to urge them to do.

As it is hardly necessary to state, there is no suggestion that the physical processes in the machine are the same as those in the human brain. If Professor Wiener and his colleagues can make a machine that can "learn" in a manner which appears to "duplicate" learning in man then, what we really mean is that the abstract structure of the process is presumably the same in man and the machine. This structure has therefore, in fact, been discovered and verified. I do not know if psychologists would admit that anything not known before has been discovered in this particular instance, but it seems that important discoveries about mental processes may come to be made in this way.

We are here, of course, concerned only with the most rudimentary mental processes and not at all with problems of *personality*. No one has yet dreamed of making machines that will do anything except what they have been "programmed" to do; "they cannot do evil, neither also is it in them to do good."

W. H. McCrea.

Philosophical Analysis: A Collection of Essays. Edited by Max Black. (Cornell University Press. London: Geoffrey Cumberlege. Price 40s.)

It is not surprising that contemporary philosophy should typically appear in print in the form of collected essays by various authors rather than in solid monographs; for the analytical approach to philosophical problems is essentially a piecemeal and tentative approach and does not encourage large constructions. This volume, unlike the very useful *Readings in Philosophical Analysis* edited by Professors Feigl and Sellars, consists of essays specially written for the volume and is not an anthology of previously published articles. The editor reasonably claims to have assembled "a fair sample of the best that is being done to-day in philosophical analysis"; he has certainly collected some fair samples, and the essays vary widely in quality. There are four essays which will (I think) be of outstanding interest to professional philosophers. They are: "The Reality of the Past," by Miss Anscombe; "Basic Propositions," by Professor A. J. Ayer; "'If', 'So' and 'Because'," by Professor Gilbert Ryle; and (in a very different way) "The Expression Theory of Art," by Professor O. K. Bouwsma. It is possible to be deterred by the sustained facetiousness of Professor Bouwsma's style and of his examples and in consequence not to notice that, at great length, an important point is being made; and a hostile reader may find metaphor sometimes replacing argument in Professor Ryle's account of the use of hypothetical statements; but again an important point is made—that "If . . . then," in at least one of their main uses, are not to be treated as combining two statements into a composite statement, and that analyses in terms of propositional variables naturally suggest this mistake; and there are other valuable warnings about the application of formal logic to discourse. Professor Ayer's essay is a classically clear statement of one of the central doctrines of logical

empiricism of the Russellian kind; even those who dissent from its reasoning will enjoy its manner. Miss Anscombe evokes the problem of the past most vividly, but refuses to break down the problem into its elements or to point to definite solutions; the essay ends abruptly, as though it were a fragment of a longer work.

Among the remaining fourteen essays are "The Verification Argument," by Norman Malcolm, which is very long and very simple; "Entailment and Necessary Propositions," by C. Lewy, which is short and not simple; and "Interpretation and Evaluation in Aesthetics," by Charles L. Stevenson, in which the method of analysis, applied with such patience and sobriety, seems finally to destroy the interest of the subject-matter. Taken as a whole, the eighteen essays represent a fair and interesting cross-section of analytical philosophy in its present phase; but it must be admitted that there is some heavy plodding through dry country before one reaches the end. I have had space to mention only a few of the oases; of course there are others.

STUART HAMPSHIRE.

Science and Cosmic Purpose. By KELVIN VAN NUYS. (London: Rider & Company. 1951. Pp. 243. Price 15s.)

This book is much better written than its pompous title and extravagant blurb would lead one to expect. It re-states some of the problems traditionally regarded as fundamental in metaphysics such as "the problem of evil" and proposes a "new" method of discussing them which the author acknowledges primarily to the inspiration of Whitehead. "Our main business, then, is to present the ultimate idea of process or creativity as the most inclusive generalization about the nature of Nature. The philosopher in this field who will be most relied on as guide is Alfred North Whitehead. He is pre-eminently *the* philosopher of process and organism; and he is one of the few philosophers of science who has devoted any thought at all to something like our topic of meaningfulness of things." Indeed, the chief usefulness of the book may prove to be that it provides an introduction, with plentiful quotations, to the more metaphysical parts of Whitehead's philosophy.

Yet Dr. van Nuys is no mere disciple. His book is clearly the product of prolonged and intense reflection on fundamental metaphysical issues. He has come to the conclusion that the world is "holy and meaningful," and yet that "disorder, evil, error are inexpugnable parts of experience." The key to the resolution of such apparent contradictions is the conception of "dynamic good." "The dynamic idea of good restores sacred importance to the world and man in both a direct and indirect way. It underlies the direct hallowing of man by showing the integrality of his flesh, his sin and evil, his deterministic aspects in the process which good calls for. And it is basic to the less direct but even more fundamental matter of reinstating man in integral relationships with God, from whom sacredness and holiness are derived. Dynamic good permits belief in cosmic purpose in spite of evil. And it makes concrete individual things and creatures holy and meaningful. And thus it achieves the sanctification of the whole and of its parts."

In spite of his unwieldy topics Dr. van Nuys writes with clarity and sincerity and documents his criticisms of other philosophers. He successfully resists the temptation merely to preach. His book will stimulate many to re-assess their attitude to metaphysical questions. D. J. MCCRACKEN.

Logic and Language. Edited with an Introduction by A. G. N. Flew. (Basil Blackwell, Oxford. 1951. Pp. 206. Price 16s.)

Mr. Flew's book is a collection of philosophical articles which have appeared in the periodicals at various times during the last twenty years. His aim is twofold: to enable students of philosophy to possess important articles which many of them could otherwise read only in libraries; and to present to the lay public examples of contemporary methods in philosophy. He includes a short introduction in which he refers to some of the antecedents and characteristics of those methods, and describes the principles on which he made his selection.

Any book, designed for a wider public, which represents contemporary philosophy, instead of misrepresenting it, is welcome. Mr. Flew's plan is a good one, and he has chosen well. Between Professor Ryle's *Systematically Misleading Expressions* at the beginning and Wisdom on *Gods* at the end, he has set Findlay on *Time*, Paul on *Sense-data*, Waismann on *Verifiability*, Hart on *The Ascription of Responsibility and Rights*, Miss MacDonald on *The Language of Political Theory* and *The Philosopher's Use of Analogy* and Paul Edwards on *Russell's Doubts about Induction*. One can imagine the reader who is inexpert in the subject being a little puzzled as he reads, out of their contexts of confusion, these (for the most part) careful and patient attempts to set matters right; and one can imagine him carrying away his own mystique of logical form from Mr. Flew's Introduction and Professor Ryle's early essay. But he could scarcely be insensible to the dominant atmosphere of the book; a persistent wooing of easily daunted rationality, a desire not to exploit, but to explain, our puzzles. Not that the articles are all purely corrective. Dr. Waismann, in drawing attention to the "open texture" of many concepts, Mr. Hart in pointing out the "defeasibility" of others, show us something general and unnoticed about the ways in which we think and talk.

I hope that Mr. Flew will edit another such collection; adding, perhaps, a list of references to the more readily accessible sources of the doctrines discussed.

P. F. Strawson.

Morals and Man in the Social Sciences. By J. V. Langmead Casserley, M.A., D.Litt., A.K.C. (London, Longmans. 1951. Price 12s. 6d.)

Dr. Langmead Casserley belongs to the school which holds that the nineteenth-century battles between religion and natural science were something of a mistake; but he does anticipate the outbreak of more serious conflicts with the social sciences, since in this case both parties are dealing with "the same phenomenon, namely man." The purpose of his book appears to be to compose these differences, and so to avert a major war on this front.

Up to a point he succeeds: but beyond that point he fails as dismally as every one of the many who have tried to graft dogma on to science. The critical issues arise naturally in ethics or in "the evaluation of man." As long as Dr. Casserley is content to let sociology explore the different ethical systems found in various cultures, analyse the why and the wherefore of such differences, and even evaluate these systems in terms of some defined but not scientifically established criterion (such as the Christian ethic, or the psychiatrist's concept of mental health, or the capacity to produce the military virtues)—so long all is well. But when he tries to go further, trouble begins; because, of course, no social scientist can make a value-judgment except in terms of another value-judgment which, in turn, is not of his making. Values must come from some-

where else, and no value-system can be demonstrated as correct by the ordinary methods of science. But Dr. Casserley, like so many others, cannot stand the "kind of mental oscillation between incompatible sets of categories" involved by recognition of this fact. So he sets out to resolve the tension, in the expectation that if the sociologist will only consent to be a little less relative, and the Christian a little less absolute, somehow in a muddle-headed way they will prove one another right and live happily ever after.

The crux of the matter is reached in the old dilemma about scientific humanism. As Dr. Casserley justly points out, the scientific humanist proposes to plan for the psychological happiness and physical comfort of man; but to the question "why should such a being be so extravagantly comforted and served?" the humanist has no answer (except perhaps that he likes it that way). That is fair enough; but then neither has anybody else any answer. The whole of Dr. Casserley's case falls down on the implication that the Christians can dispose of this question any better than the heathen. Presumably Dr. Casserley as a Christian would reply that it is God's will that man should comfort and serve his fellow-men: but that is no improvement on the humanist's position, if you don't believe in the Christian God anyway or don't recognize Dr. Casserley as his earthly spokesman (and there is nothing even in sociology to require that you should do either). Alas! the Christians are in no better case here than the humanists upon whom they look down with kindly pity. Indeed, Dr. Casserley's attempt expressly to dispose of the logical positivists is quite childish. He says (page 9) that we all understand the state of mind which makes it possible to say that "A is a fine and noble man, whom I respect and greatly admire, whereas B is a scallywag for whom I have no sort of respect at all. And yet . . . I have no particular affection for A and always enjoy B's company." This is supposed to prove that moral judgments cannot just be "assertions about the speaker's emotional condition." Has it never occurred to Dr. Casserley that it is just as possible to like a man's company and even to love him while disliking his morals, as it is to like a woman's face and dislike her hat?

Having thus stated his thesis and disposed of his enemies, Dr. Casserley takes us through a review of classical and Christian ethics followed by a discussion of the secularist reaction in modern ethical theory, and of the "range of the relative." He has no difficulty in showing that the characteristic values of the humanist and indeed of "Western civilization" are just those which have a central place in Christianity; and that, therefore, if we want these values to be preserved, it would be *convenient* if the Christian religion was (*a*) true, (*b*) universally believed; but that does nothing, of course, to establish its truth. Indeed here Dr. Casserley dodges what is the great dilemma of the modern Christian—viz. that, however much we may *wish* to underpin our traditional values by making everybody a Christian, it is a great deal harder to do this nowadays than it used to be, when one could confidently quote miracles in support of an undiluted literal faith in the divinity of Christ. In the last resort Christian morals never have been any better founded than those of the humanist. The new factor to-day is that it is no longer possible to conceal the shakiness of their foundations.

Nor is Dr. Casserley's attempt to introduce a little more absolutism into sociology any more successful. It only amounts to claiming the sanction of social science, or even of "common sense," for some of his own opinions. "Sociology will do itself no good if it carries the dogma and methodological expedient of relativity to a point at which it outrages common sense" (page 96). Culture patterns, he argues, are all very well, but there are *some* universals. Maybe there are: but it is surprising to learn that "without exception all the

higher forms of civilized development have originated among peoples whose family life was of the patriarchal kind, involving a particularly stern discipline of the sexual life of the women." Dr. Casserley is deeply impressed with the virtues of patriarchal monogamy and he sings them again on pages 100, 101. Was it really his sociological studies which led him to this remarkable conclusion?

Altogether this is more of a theologian's book than a sociologist's. Much of it consists of simple assertions such as "The truth is . . . that religious thought at its narrowest inevitably turns out in the last analysis to be broader than secular thought at its broadest" (page 82). Much would be quite in place in a sermon. But one cannot complain about that since Dr. Casserley's essential thesis rests on faith and is incapable of defence by argument. Unfortunately, however, he does not call spades spades and opinions opinions, but follows the fashion, now popular amongst theologians, of using the adjective "existential" to describe private beliefs which it is desired to pass off as eternal verities. A modern theologian can get away with murder if he declares that it is "existentially justified." In the 115 pages of that section of Dr. Langmead Casserley's book which is devoted to morals, the words "existential," "existentialism," "existentialist," "existentially" occur more than forty times. The climax is reached (page 82) when secularists are taken to task for avoiding or glossing over "the existential character of human existence."

BARBARA WOOTTON.

The Clairvoyant Theory of Perception: a New Theory of Vision. By M. M. MONCRIEFF. (Faber & Faber Ltd. Pp. 315.)

In this book Mr. Moncrieff puts forward and recommends a form of direct realism in regard to visual perception. It is bound up with something which he calls the "Principle of Four-dimensionality." He gives some account of this Principle in the present book, but states that a fuller treatment is to be provided in a forthcoming volume devoted primarily to that topic. He argues that the well-attested phenomena of clairvoyance became intelligible if we regard normal visual perception as a highly specialized and restricted form of a general faculty of direct perceptual cognition. What is commonly called "clairvoyance" is the exercise of this faculty either without the limitations of normal visual perception or under limitations of a different kind. An example of the first alternative would be what Mr. Moncrieff calls "Full Four-dimensional Vision," i.e. where a person "sees," from a *single* point of view and *simultaneously*, an object *as a whole* which he could normally see only in a *sequence* of perceptions of its various parts from a *number* of points of view. An example of the second alternative would be what is called "Travelling Clairvoyance," i.e. where a person "sees" a physical object, from a single point of view and under the ordinary limitations of normal sight, but where the point of view is remote from the position occupied by his eyes at the time. (A typical case is "seeing" one's own body lying in bed, as from a point of view some distance above the bed.)

If I understand Mr. Moncrieff aright, he would hold that what happens in normal vision when one's eyes receive the light reflected from a penny lying before one on the table may be described as follows. *No part* of the effect of the resulting disturbance in the optic centres of the brain is to *generate* a coloured extended particular (a "sensum"), which is the private immediate object of the percipient. There are no such entities as "sensa" in this sense, and no such experience as "sensations" in the sense of states of acquaintance with sensa. What the disturbance in the optic centre does

is to call forth in the mind an *act of seeing*, whose immediate object is the *brown surface of the penny* from a *certain point of view*. According to Mr. Moncrieff the penny is in fact seen simultaneously from *two* points of view, viz. from immediately in front of the affected areas of the right and of the left retina. But in consequence of the Principle of Four-dimensionality, which will be considered later, these two slightly different perceptions of the penny are integrated, and it is seen as from a single point of view midway between the eyes.

Colours thus become objective characteristics of the surfaces of material objects. But Mr. Moncrieff finds it necessary to draw a number of distinctions here in order to deal with several possibilities, of which the following are examples: (i) A certain hill is covered with grass and looks *green* to anyone with normal eyesight who sees it by daylight from near at hand. (ii) If he views it from a long way off, it will look *blue* to him, and it will look more blue and less green the further away he is. (iii) If viewed from near at hand by a person who suffers from red-green colour-blindness, it will look *reddish-brown* to him. (iv) If viewed from near at hand by a normal person who has taken a dose of the drug santonin, it will look *yellow* to him.

Mr. Moncrieff's account of these various alternatives may be stated as follows. Except in the fourth case (that of the percipient who has taken santonin) the colour seen exists in physical space independently of the mind and the body of the percipient. Objective colours are the qualitative aspect of photo-electric events, which occur when ether-waves of various frequencies strike the atoms of material things. *All* the colours of the spectrum are present to some extent on the surface of a grassy hill when it is struck by that mixture of waves of various frequencies which is the quantitative aspect of daylight. But the colour which is predominant is *green*, and so this may be called the "intrinsic" colour of the hill. A person who suffers from red-green colour-blindness is unable to see the predominant green colour. He sees only the reddish-brown, which is also there to some extent. The blueness seen by the normal observer who views the green hill from a great distance is the colour associated with photo-electric events taking place at the surface of small material particles suspended in the air between his body and the hill. In principle it is the same as if he looked at the hill through blue spectacles. Mr. Moncrieff calls both the blue appearance to the distant normal observer and the reddish-brown appearance to the near-by colour-blind observer "objective appearance colours." But he holds that the yellow colour seen by the observer drugged with santonin *is* in some sense a creation of his brain and nervous system, and so he calls it a "subjective appearance colour."

We may consider next Mr. Moncrieff's account of the apparent *shapes* of physical objects seen from various points of view, e.g. the elliptical appearance presented by an intrinsically round flat object when viewed obliquely. These he counts as *objective* appearances, on the ground that they are independent of the mind and the body of the percipient. The situation of the percipient merely determines which particular one of these innumerable objective appearances, associated with a single material object, he shall perceive. This assertion is bound up with a theory of "Public Perspectives," which Mr. Moncrieff merely adumbrates here and promises to develop fully in yet a third book.

I pass now to Mr. Moncrieff's account of what may be called "optical dislocation." The reflection of an object in a plane mirror is the simplest example. Mr. Moncrieff says that we must carefully distinguish between what he calls a "mirror-object" and what he calls a "virtual mirror-image."

Suppose that my head is in a certain position in front of a plane mirror, and that I "see" the reflection of a certain vase in that mirror. Then there is a certain definite area of the mirror which (i) is being affected by waves coming from the vase and (ii) is reflecting such waves to my eye. This area, whose shape and size will be a projection of the *solid* vase from a certain direction upon the flat mirror, is what Mr. Moncrieff would call the "mirror-object." This is what I literally *see*. Now, when a person literally sees such an object, he *seems to himself* to be seeing a *solid* object, exactly like the actual vase except for a characteristic kind of inversion, situated at a place as far *behind* the mirror as the vase is in front of it. This is what Mr. Moncrieff would call the "virtual mirror-image." The mirror-object of a thing from a certain place is something completely objective. The presence of a percipient in that particular place merely brings it about that that particular mirror-object is *seen*, whilst the innumerable other mirror-objects of the vase from other points of view, which co-exist with this one on the surface of the mirror, are *unseen*. But there is nothing in the physical world answering to the description of the virtual mirror-image. It is in some sense a creation of the mind and body of the percipient. Mr. Moncrieff describes the process as "projecting" a virtual mirror-image to a place behind the mirror where no such object really exists.

In this connection Mr. Moncrieff draws a distinction between "perceiving" and "perception," on the one hand, and what he calls "acceiving" and "acception," on the other. Only actually existing physical things or events can be *perceived*. But the perception of a certain physical thing or event under certain conditions (e.g. a mirror-object) may generate a pseudo-perception, in which one seems to oneself to see a physical thing or event in a place where nothing of the kind exists at the time. This pseudo-perceiving is called "acceiving," and the object which the experient seems to himself to be perceiving under such circumstances is called an "acceptum." This distinction should be compared and contrasted with another which Mr. Moncrieff makes, viz. between what he calls "bare percepts" and "interpretive supplements." What a person literally perceives on any occasion is indeed always something quite objective and in no sense a creation of his body or his mind. But it is extremely fragmentary, and any grown person automatically supplements it and interprets it with the memories and associations which it calls forth.

Mr. Moncrieff deals in the following way with the case of a distant star which continues to be "seen" from the earth for years after it has disintegrated. He holds that what an observer, who looks in the direction in which the star *lay* before it exploded, really sees is, *not* the star, but a stretch of innumerable small lights in intermediate space, associated with the photo-electric events produced by the radiation from the star on minute material particles in the line between his eye and the place which the star formerly occupied. Since these all lie in a line behind each other, they are integrated into the appearance of a single small distant luminous object. (Mr. Moncrieff does not deal with the phenomenon of *aberration*, which occurs when a distant star is watched by an observer from a platform, such as the earth, which is moving with a velocity that is appreciable in comparison with that of light. I presume that he would try to deal with it on similar lines.)

The following comments are perhaps worth making at this point. (1) Mr. Moncrieff's account of the yellow colour "seen" by a man drugged with santonin ascribes to the mind-body of an observer the power of *creating* colour-appearances and *projecting* them to places in physical space where no such colours belong. His account of virtual mirror images ascribes to it the

power of *creating* appearances of solid coloured objects and *projecting* them to places where no such bodies exist. Is it very credible that one and the same psycho-neural mechanism should in *general* merely call forth direct acquaintance with independently existing coloured bodies, and yet should *occasionally* create and project exact simulacra of such objects? (2) I find the account of mirror-objects and virtual mirror-images difficult to swallow. In so far as one can be said to see the area of a mirror which reflects to one's eye the rays from an object in front of it, it is surely seen as a *silvery* area and *not* as having the colours of the object. Yet, as I understand the theory, it is alleged that one *really sees* a flat projection of the object in *its own colours* on the surface of the mirror, and is thereby led to have a *pseudo-perception* as of a similarly coloured solid object behind the mirror. (3) The account given of "seeing" the no longer existing star implies that, in the absence of particles suspended in the intervening medium, the distant star would cease to be "seen" at the very instant when it ceased to exist. Presumably aberration would also cease to occur under similar conditions. Is this really credible?

It remains to say something of the "Principle of Four-dimensionality." I suspect that the name is an unfortunate one. It is admitted that the term "four-dimensional" and the correlated term "three-dimensional" are used, in connection with this principle, in a different sense from that in which they are used in mathematics. It will be best to begin with examples. (i) A surface can properly be said to be *red* at each moment throughout a continuous stretch of time. But the state of redness which exists at this place at *each moment* of this period is associated with something else which is essentially *successive*, viz. a state of vibration of a certain frequency. According to Mr. Moncrieff, the red colour and the associated state of vibration are equally objective and independent of the presence of an observer. He counts the state of vibration as an instance of "three-dimensionality," and the state of redness as an instance of "four-dimensionality," in his technical sense. He regards the latter as arising through the integration of an *aggregate*, which is quantitative and successive, into a *whole* which is qualitative and indivisible. And he offers this integration as an example of the "Principle of Four-dimensionality."

(ii) Imagine a square flat object lying in a plane. A being confined to that plane could never *see* this thing as a whole. He could only walk round it, get a sequence of views of the several sides, and then form as best he might a *concept* of the whole in which they coexist. But a being who could move out of the plane, and view the object from a point above it, would *see* it as a whole in one view. We are *very nearly* in the position of the imaginary two-dimensional percipient in respect of our *normal* vision of *solid* objects. Now we can conceive a visual field in which the *whole* of the surface of a solid object would be presented *simultaneously* from a *single* point of view. This would be an instance of what Mr. Moncrieff calls "Full Four-dimensional Vision." It is alleged that instances of it occur in clairvoyant subjects. However that may be, Mr. Moncrieff holds that our normal binocular vision has to an extremely limited extent the properties of four-dimensional vision. In looking at a solid we see in one visual field and from a single point of view an integration of the slightly different though predominantly overlapping parts of it which are projected on to the two *retinae*. This is also offered as an example of the "Principle of Four-dimensionality."

I have said that the above two cases are "offered as examples" of the Principle. But I think that I am here being too charitable to Mr. Moncrieff. I am afraid that there is no doubt that he often treats the Principle, not merely as a summary of certain important facts, but as an *explanation* and

even as an *agent* which brings about various "integrations." I can see no justification for this.

Finally, I will mention that Mr. Moncrieff has very interesting things to say about stereoscopic vision, and about a topic concerning which most of us are deplorably ignorant, viz. the compound eyes of insects and the problem of how they see with this curious and seemingly clumsy apparatus. I suspect that some of the problems described are pseudo-problems, and therefore that the solutions offered are no recommendation for any particular theory. But the facts are highly interesting and will be new to many readers.

C. D. Broad.

The Development of Aristotle. Illustrated from the earliest books of the *Physics* By H. E. Runner. (J. H. Kok, N.V., Kampen.)

This work is a thesis presented for the doctorate at the Free University of Amsterdam, by a student who was born in America, but evidently does not write English as his native language. In the first chapter, he discusses at considerable length "the present status of Aristotelian studies," and arrives at some general maxims of interpretation. In the remainder of the thesis, he considers in detail Books VII, I, II, V and VI of the *Physics*, leaving out of account Books III and VIII, because it is held that they show Aristotle's system in its final shape and throw less light on the process of its formation.

The writer is deeply influenced by the methods of his principal philosophical teacher, Dr. Vollenhoven, who has just published the first volume of a *Geschiedenis der Wijsbegeerte*. This work will, no doubt, in due course be reviewed in this journal. However, since its method is accepted without reservation by Mr. Runner, a brief description of it must be given here. In the first place, Dr. Vollenhoven writes from a definitely Christian and Calvinistic point of view. This yields him the healthy, but negative rule that one should beware of reading Christian notions into the pagan philosophers. Secondly, and this is less satisfactory, his treatment is of a highly formal character; instead of dealing with the Greek thinkers in the usual chronological succession, he starts from a classification, which is pursued to absurd lengths, of the types of doctrine which they represent. We are invited to regard the appearance of *realism*, in the earlier philosophy of Plato, as the salient fact. All previous philosophy including that of Socrates is termed non-realistic and variously subdivided. So far, this has little bearing on the speculation of scholars about the growth of Aristotle's philosophy. But Dr. Vollenhoven has further maintained in the journal *Philosophia Reformata* XVI (1951) that Jaeger's account of the genesis of Aristotle's thought is open to objection on the ground that he considers only Aristotle's reaction against Platonism and does not view his physical system in relation to earlier Greek speculation. (In the present reviewer's opinion, this charge is wholly untrue.)

Coming to Mr. Runner's thesis, many points might be criticized both in his account of the state of Aristotelian studies and in his analysis of the *Physics*. It need only be said that he distrusts the view which would distinguish three main phases in Aristotle's development, and prefers simply to contrast a Platonic and a non-Platonic phase. The evidence which he offers, however, will convince no one who is not a disciple of Vollenhoven; and my impression is that the faults of the work are not so much those of the writer, as of the teacher whose jargon and distinctions he has imbibed.

D. J. Allan.

Is God Evident? By GERALD HEARD. (Faber & Faber Ltd. 1950. Pp. 247. Price 12s. 6d.)

Is God in History? By GERALD HEARD. (Faber & Faber Ltd. 1951. Pp. 252. Price 15s.)

These two books are intended to form the first two parts of a synoptic philosophy of religion; Mr. Heard equates the first with Natural Theology, the second (rather strangely) with Dogmatic Theology, while the "third pier of the bridge of faith" is to be a Mystical Theology. I think a cursory glance at these books would be likely to deter either a professional philosopher or a professional theologian from reading them, but that such a reaction would be a mistake. A philosopher of the now prevalent school of thought would complain that there is scarcely any examination of the meaning of the words "God" and "History," or of the ambiguities in scientific language. Even if he were not a verbalist, he would reasonably be put off by Mr. Heard's excessive use of capital letters and slogans, not all of them apposite; for example the Synopses prefixed to the second book do not, I think, give one a good impression of the book. This book shows marks of over-haste, both in its arrangement and in detail; there are too many sentences with verbs intentionally or unintentionally missing, and misprints are too numerous to list. The first book is much better done, both as a whole and in detail.

But both books embody an effort to think synoptically about important themes and contain much originality; the rather flamboyant style does not mask a lack of candour; the defects seem largely due to the real difficulties of a field which the professionals just fear to tread. I for one hold that we need informed speculation on the data of the biological sciences and anthropology. In natural philosophy, as Mr. Heard says, "there are no authorities, nor will the specialists ever become such. On the contrary specialists must become increasingly unauthoritative on any life-size issue." And yet, "the greatest injury man can suffer is disorientation" (S. Langer). Certainly there is the possibility that specialist terms may be misunderstood and facts wrongly assessed; but Mr. Heard's broad survey makes a strong impression of being well-documented and candid.

His first book argues that the data of the biological sciences are far more significant—positively or negatively—for a natural theology than are those of mathematics and physics; and that as soon as we recognize this we must allow that the case "for or against God" cannot be a matter of strict proof but only of "interpretation" (M. C. D'Arcy's term). The data are definite enough, but there is room for a more agnostic-conservative or a more enterprising-speculative attitude towards them. The data on which Mr. Heard relies fall into three groups: (1) those suggesting fitness of the environment for the origination and development of life and of man; (2) those features in the comparative story of life and in human physiology which suggest progress and relapse round a central line of advance; (3) those concerning the relationship of consciousness to bodies, e.g. domestication of animals, parapsychology. Living beings, he maintains, at all levels of life have been faced with a "choice" between openness to the needs of other living beings on the one hand and easier immediate success on the other; choice of the latter course involving a specialization that bars future development for the species. All this is perhaps not so very different from Bergson; but after all some of the new data since Bergson's day, e.g. on the teachability of animals and their selection of right food, are of great philosophical interest and relevance to the interpretation.

The general thesis of his first book is: "If purpose and meaning can be

detected . . . and if that purpose seems good (an arrangement comprehensible by a rational mind, beautiful in its expression and attaining conscious insight and love in its latest manifestation) then we may say that God is a valid inference." A more fashionable way of putting this would be: "If we find directedness of a certain sort in nature, then it is not misleading to employ for this the symbol 'God' derived from the context of traditional religion."

Mr. Heard, though he does not put it in this way, is fully aware that it is vital to any rational theology to establish a link between the interpretation of nature and traditional religion—which can't be content with a God Who is a mere inference. This is just what eighteenth-century theology on the one hand and dogmatic Protestant theology on the other conspicuously fail to establish. Can it be done? That is the question of his second book. Now the conceptions of degeneration and recovery are essential even to the thesis of the first book—essential if we are to make any extensive sense of the data of life and not just shrug our shoulders at their terrific complexity. He now proceeds to equate these conceptions with the traditional religious conceptions of Fall and Redemption, and to apply these to human history. Is this procedure legitimate or just confusing? This book calls up reminiscences of Toynbee; but Mr. Heard does not go in for his dubious hypostatising of "civilizations," and he comes down much more definitely than Toynbee in favour of "divine grace" as a real causative factor in history. The historian can eschew such speculations; but it seems to me, as Mr. Walsh has recently shown, that this sort of enterprise is perfectly legitimate, even if it is not history.

Mr. Heard finds his key to history in (1) human prehistory, with its records in archaeological data and in legend; (2) in the cultural and especially the religious history of China, India and the Middle East. He utilizes the findings of clinical psychology relating to anxiety and amnesia to justify his leading idea that men have at all times been aware of a Fall or Falls for which they feel themselves in some obscure sense to blame. These Falls produce "insulating layers" in their consciousness, progressively shutting them off from intuitive understanding of their fellows, of their own bodies, of animal life. The first Fall from intuitive awareness is pre-human, and its remedy is the primitive Tradition of totemistic ritual and morality. Tradition for man takes the place of rigid instinct. Mr. Heard stresses against Frazer that magic is not economic activity of a silly kind but "an art for cohering society." The second Fall is from matriarchal or priest-kingly peaceful fruit-culture or agriculture into the society of the "heroic ages," resulting in individualism, violence and addictions. This Fall also calls forth a remedy, the preaching of an individual morality by the Jewish prophets, the Orphics, the Buddha. The third Fall is a fall into debased religion—orgiastic rites, witch-hunting, etc.—indicating a radical perversion of the hitherto fairly healthy Tradition. The remedy is seen in the rise of the religions of universal salvation, Mahayana, Vedanta and Christianity. These offer techniques for restoration and a new advance, by breaking down insulating layers and (for example) *enabling* men to forgive. The typical Eastern techniques are psychophysical ascetic exercises, the typical Western techniques are cathartic sacramental rituals; both are needed and were found in Christianity at its best. They culminate in "the saint" who is the redemptive man, and whose existence is the only really good argument for religion (*Is God Evident*, Chap. II).

The above is a crude account, but I hope not a caricature, of Mr. Heard's interpretation. How far does it justify the claims of the traditionalist theologians that Jesus was not merely divine but God, the sole source of redemption and of truths which are in some sense infallible? Unless we are perfectly clear on this point, the use of the theologians' special words will be liable to mislead.

I think Mr. Heard is pretty clear, though his language in dealing with this issue is rather difficult. As against Loisy, he stresses the distinction between history and myth, but insists that, in history as *res gestae*, myth is always operative as a real cause. Belief in a cosmic fall and redemption was operative in the life of Jesus. Belief in Jesus as the immaculate seed untouched by the fall, as the prophet and as the priest-king was operative in the early Church, making it what it was—and the evidence suggests that it was a very remarkable phenomenon, manifesting powers beyond what we are familiar with. The historian re-interprets when he feels that re-interpretation has become necessary, and he is always under the influence of "myths"—if not of salvationism, then of mechanism or equalitarianism. We have no right to say dogmatically that the interpretation of another age is wrong. We may certainly find the conception of redemptive events an extravagant one, and prefer to explain the early Church and other similar phenomena otherwise. But if we decide to allow the conception, Mr. Heard argues, we cannot in principle know the exact "blend of the topical and the aeonic" (p. 213) in the life of Jesus—the cosmic range, so to say, of these events. They seem to have a greater redemptive effect than, e.g. the events of the life of Gautama, with which one might compare them; but will they appear ever more and more to future historians as "the middle point of history" (Solovyov)? *In principle*, no one can know. But anyone who feels a concern about the European tradition has to choose some interpretation of these events. The strength of Christianity, thinks Mr. Heard, lies in the fact that it is based on myth wedded to history, not on myth alone.

If there was a redemptive act, we must recognize that its effect seems to be waning, and this, he holds, is due precisely to the Church's indifference to historical truth, its erection of pious opinions into excess-dogmas, so encouraging persecution and revolt. Are there to be further Falls and completely novel Redemptions, or can the Tradition be saved? On this issue Mr. Heard supports Joachim of Floris rather than the Bhagavad-Gita.

I think Mr. Heard has faced rather successfully the difficulties in the notion of "a Fall"; in the notion of ends within an evolutionary process; in the notion of intermittent, unpredictable redemptions. I could wish he had faced rather more explicitly the difficulties in the notion of unconscious guilt, so forcibly put by Mr. H. D. Lewis. Yet it was not without reason that Freud introduced this idea.

Those who see no purposiveness anywhere apart from individual conscious purposes; those who are content to regard morality as purely conventional or directed simply to the preservation of political independence; those who like Mr. Popper want to preserve individualism from "the spirit of the tribe"—all such will have no use for Mr. Heard. But those who search for the relation between morality and the needs of man, between the right and the good; who believe that modern Western man has lost something valuable that "the tribe" had, and that our absorption in economic solutions only scratches the surface of the human personality—such will find Mr. Heard stimulating. These books carry his "Eternal Gospel" a stage further, and I hope he will persist with his trilogy.

C. W. H. Sutton.

The Nyāya Theory of Knowledge, By S. C. Chatterjee. (University of Calcutta, 1950. Pp. 387. Price Rs. 8.8. Second edition.)

It is a highly commendable book on Nyāya epistemology. It treats the Old School, the New School and the Synthetic School of Nyāya under a

"cumulative body of the logical studies and their results." It descriptively analyses the facts of knowledge, adjudicates upon its forms and methods and determines its final validity as an understanding of reality.

Inspired by some leading philosophers and nourished by extensive study of Eastern and Western philosophy, the writer's comparative and critical mind dwells upon the subject in a masterly way. Exposition, comparison and critical judgment follow one other in inevitable succession. The exposition is lucid, comprehensive and refreshing. The comparison is of allied Indian systems on the one hand and of Eastern and Western thoughts on the other. It is an attempt to "explain and develop the ideas and theories of Indian philosophy in terms of the corresponding ideas and concepts of Western philosophy," yet to guard "against the imposition of foreign ideas on the genuine thoughts and concepts of Indian philosophy," and, finally, "to modify them in some places and supplement them in the light of Western philosophy." The writer, nevertheless, shows a mind of his own on the basis of what may be called his "personal intuition" crystallized through discursive thinking. Here lies the strength and weakness of his case. His "intuition" claims to reconcile pluralistic realism of Nyāya with his personal faith in an all-comprehensive Absolute Reality.

The second edition is said to be an improvement on the first. But the writer still too often uses such phrases as "We shall see," "We shall come to it," "As we shall see more fully hereafter," apart from repetition of some ideas. The jumbles of Sanskrit syllables at the footnotes might more profitably be split, where possible, into individual words, with the aid of hyphens. There are also some slips in diacritical marks as in *kotis* (*koṭis*), pseudo-Sanskrit phrases like "*tadvati tatprakāraka* (*tadvati tat-prakārakatvam*), (p. 50), and oversight in correcting proofs as in "*gṛhītagrāhītakṛta*" (*gṛhīta-grāhitva-kṛta*), (p. 27).

S. Bhattacharya.

Knowing and the Known. By John Dewey and Arthur F. Bentley. (The Beacon Press. Boston. 1949. Pp. xiii + 334. Price $4.0.)

Semantics in its wider sense, has on the other side of the Atlantic achieved a *succes de scandale* and become a panacea for all sorts of intellectual ills. In this book some of its more far-reaching claims are examined and critically evaluated. The work consists of a series of essays, some written independently by Bentley and Dewey, others jointly, and brought together in book form. On its positive side it is primarily a variety of old-fashioned pragmatism of the best American vintage. Though it eschews metaphysics, urging us to adopt what is termed a postulational approach, its emphasis on the essential unity of "Thought" and the "Thinker," and its concern with their functioning as elements in one cosmic process savours strongly of traditional idealism. This impression is heightened by the obscurity of style and the apparent profundity of the ideas expressed.

The critical part is largely taken up with the allegedly vague manner in which logicians and semanticists have used such words as proposition, meaning, fact, term, concept, etc. The work of Carnap, Cohen and Nagel, Lewis, Ducasse and Morris all come in for their share of criticism. Tarski's "semantic account of truth" is alone treated with some respect; it is described as a breath of fresh air. One is somewhat surprised to see these seekers after logical perfection convicted each in their turn of muddled-headedness, one chapter, e.g. is headed "Morris's Confused Semiotic." Though Bentley and Dewey's criticisms are often to the point, it is questionable whether the

large amount of confusion and inconsistency they find, does not rather reflect a failure on their own part to understand these authors.

Carnap's separation of syntactics from Semantics and Pragmatics comes in for severe criticism, it is described as a leap back to medieval times; such issues as the gaining and communication of knowledge are now tossed into the garbage tin of Pragmatics. However, if one rejects Bentley and Dewey's thesis that the prime concern of logic, and for that matter the theory of knowledge, is with forms of behaviour *qua* behaviour, the distinction is relevant. We are told, e.g. that what is essentially man in action becomes distorted when manipulated as if it were detached from him. But the technical symbolism of modern logic is only a distortion if ordinary language with its notorious inadequacy for precise logical expression is taken as a yardstick. One might on similar grounds object to the technical vocabularies of physics and chemistry.

The positive side of the enquiry moves against a large canvas. Bentley and Dewey endeavour to bring order into the theory of knowledge by fixing a set of firm names embedded in everyday linguistic usage. However, ordinary language does not readily lend itself to such treatment, its very value often lies in its ambiguity and protean character; this is especially the case in the field of social communication and in emotive situations. To arrive at firm names we need to postulate, as Carnap does, a set of primitive words and symbols together with precise rules of inference—a form of procedure which they reject. Obviously, there is some point in Bentley and Dewey's complaint —there is a tendency among philosophers to talk about everyday discourse as if it were a formal calculus, rather than a transaction between persons. The analogy drawn between such calculi and language is superficial, the only resemblance is to the artificial grammatical structure imposed by grammarians on language as a form of behaviour.

In their search to secure firm names, they adopt what they call a postulationare procedure. Postulations are distinguished from postulates, though they too lay down guiding principles for behavioural enquiry, they are, so we are told, not hypothetical in character but based directly on previous observations. In this way they hope to bypass metaphysics, but observations cannot be made in thin air. At some point postulates have to be introduced not founded directly on sense-experience.

Eight groups of postulations for behaviour enquiry are enumerated, including one of postulational rejects; an example of the latter is "All 'reals' are beyond knowledge." There are groups of postulations for "knowings" and "known," for "names" and "naming," for signalling and symbolizing behaviour, etc. The purpose of this architectonic is apparently to reduce the artificial division between "knowings" and the "known." A "knowing" as a form of behaviour is to be taken as the same kind of an event as an eclipse, a fossil or an earthquake. No radical difference in kind is thus assumed between say our recognition of a motor-car, and our contemplation of the higher abstractions of mathematics and logic. They are, without a doubt, all human activities, but there are activities at different levels. At some levels the behavioural aspect is of supreme importance, e.g. in everyday discourse where our social and personal experience interact with language modifying it. In logic and mathematics on the other hand, we are primarily interested in abstract systems as static artifacts, rather than as forms of behaviour. The logician is quite indifferent whether his formulae are manipulated in Poland or the U.S.A. A mathematical theorem may delight the heart of a mathematician, but this is irrelevant to its internal logic.

Dewey's view of logic as an instrumental form of enquiry dominates the

scene and with it a refusal to draw any factual distinction between psychology and logic. Abstract formulae, logical constructions and sense-data, are all classed as facts. This in itself is plainly not very informative or interesting; our interest lies rather in the different orders of fact (i.e. in their degrees of generality), their differences in this respect are more instructive than their similarities. It is doubtful whether there is much connection between logic as they conceive it and symbolic logic as we know it to-day; there is a failure to distinguish between the heuristic conditions of inference and the logical formulae themselves. It may be that they are all embedded together in one vast cosmic process, but it is necessary to disengage them if progress is to be made in thought. W. MAYS.

Some Aspects of Extrasensory Perception. By Dr. S. G. SOAL. (*Proceedings of the Society for Psychical Research*, Vol. XLIX, Part 180.) (S.P.R., London. Price 2s.)

The matter of this pamphlet, which is somewhat disjointed in form, is partly polemical; but it contains an account of some curious and novel facts, notably the findings of Pratt and Foster on the phenomenon of displacement in card-guessing, which will be of interest to philosophers and psychologists, and also makes reference to recent theories of the nature of extrasensory perception. Dr. Soal is sceptical of Whately Carington's Association Theory of telepathy. He is more receptive to Professor Price's suggestion of the all-pervasiveness of the psi-faculty and bases on it a suggestion that we might test the telepathic capacities of electronic selectors. It is an interesting exercise for philosophers to decide what they would say if selectors proved to be sensitive to each other's choices in the way suggested. MARTHA KNEALE.

Kantian Ethics. By PROFESSOR A. E. TEALE. (Oxford University Press, 1951. Pp. x + 328. Price 30s.)

The author says he has set himself four tasks (pp. viii–ix). The first is "to show that Kant was really concerned with the Christian doctrine of perfection," and that in his early works with the help of this he "achieved a view of the supreme principle of morality vastly different from, and much more plausible than, that canvassed in his better known works." The second is to show the ambiguity of Kant's doctrine in his main works owing to the retention below the surface of this conception of perfection as the clue to ethics in conflict with Kant's better known conception of the moral law. The third is to explain this inconsistency by reference to the influence of a concept which is prominent in his aesthetics, that of "conformity to law without law." The fourth is to indicate how Kant's theory might have been improved by due consideration of the above points.

It sounds an attractive programme, but personally I do not think that the author has succeeded in fulfilling any one of his four main aims. As regards the first enough evidence is simply not provided, the author's case seeming to rest almost wholly on a single passage in Kant's *Enquiry into the Certainty of the Principles of Natural Theology and Morals.* It is not a case of a worked-out view (at least Kant has not worked it out for our benefit), but one statement of a single formula which might be interpreted in a number of different ways. Nor, whatever ambiguities or inconsistencies there may be in Kant's mature ethical writings, is Professor Teale in my opinion successful in tracing them to a clash between the concept of perfection and the concept of the

moral law. He follows some better-known commentators in an over-eagerness to discover inconsistencies in Kant. To give one instance, he accuses Kant of having contradicted himself by maintaining both that we know (from our consciousness of the moral law) that we have freedom and that it is quite ununderstandable how we can have it. I cannot see any contradiction in supposing that we might know something to be true though we could not understand how it was true and even what its exact nature was. Are all theistic arguments necessarily invalidated merely because we cannot grasp what God is like? Nor does it seem to me that Professor Teale has shown that Kant's views on ethics were much influenced by aesthetics. What he has done is to suggest interestingly how they might have been developed by substituting in ethics for Kant's notion of rigid universal laws that suggested in the *Critique of Judgment* for aesthetics of a lawfulness without laws. But it does not seem to me that his revision of Kant's doctrine is worked out with adequate clearness.

I cannot therefore regard the book as successful on the whole. Yet it indubitably contains a great deal of promise, and I should much welcome another work from the author in which he expounded his own views of ethics in more detail and with greater clarity. The chief merits of the present work lie in the force with which the distinction between moral and other values and imperatives is brought out, and in a certain number of very interesting suggestions especially on freedom and on the analogy between aesthetics and ethics. The former achievement would be of much importance if it had not been anticipated by Professor Paton. Unfortunately the author's analytical powers do not seem to me as clearly evidenced elsewhere. He, while rightly revolted by hedonism, seems to see it as a bogey everywhere even when it is not really there. T. H. Green, Mackenzie and the present reviewer are all accused of it, and the author seems to forget the distinction between egoistic and universalistic hedonism and between hedonism of either brand and the view that the rightness of an action depends on the good it realizes where good is not limited to pleasure. Like Kant he wants to find real good only in the will to the exclusion of its effects, but might there not be real good in both? He would no doubt reply that he is talking of moral good and the good of the effects is not moral, but at least it is good, and more relevant to moral goodness than he seems prepared to allow, since surely the goodness of the good will cannot be separated from the intended, though it can be from the actual, consequences. His account of freedom and evil in the last two chapters, though interesting and stimulating, is hard to follow, and there are occasional cases of what seems to me sheer bad argument as when Professor Teale seems to jump from a single, rather peculiar illustration to the Socratic view that we cannot act against a clear call of conscience (p. 311). Yet a really considerable promise shines through the defects of the book.

A. C. Ewing.

Types of Religious Experience, Christian and Non-Christian. By Joachim Wach. (Routledge. Pp. 275. Price 21s.)

This book by the Professor of History of Religions in Chicago University, consists of a variety of essays on different levels of generality of appeal. Some are only for the professional theologian or oriental scholar; possibly we all ought to know more about Schwenckfeld or Al Hujwiri, but the author has not convinced me of this. In the main the book seems to be addressed to the professional Christian theologian, and is a well-reasoned appeal to him not to treat comparative religion as an "extra" to be looked into if his time permits. But the majority of the essays have a wider public in view. "Scholars ought to

be interpreters," he holds, "and their interpretation should concern matters of existential significance." Their work should exhibit "frugality, in the sense of a concentration on essentials; a concern with meanings rather than with facts; . . . and a striving for the achievement of a unified outlook on life." These qualities are certainly manifested in Professor Wach's own work.

In the field of religious phenomena the problem, as he sees it, is to steer a course between Historicism, the establishing of merely local and temporal connections between facts, and Dogmatism, the evaluation of these by merely arbitrary and subjective standards. *The Place of the History of Religions in Theology, Universals in Religion, The Concept of the Classical in the Study of Religions* give a systematic sketch of the way Professor Wach thinks this material should be handled; the rest of the book applies this method to some themes from non-Christian and Christian history. Of these latter essays, I think *The Idea of Man in the Near Eastern Religions* and *The Study of Mahayana Buddhism* certainly substantiate his thesis that these remote facts throw light on real and important problems of our time—and not only our time. He seems less successful in the field of religious sociology, which he handles in *Alexis de Tocqueville* and in *Church, Denomination and Sect;* this latter classification seems unclear and no real improvement on Weber and Troeltsch. His final essay on *Rudolf Otto and the Idea of the Holy* is definitely disappointing, whether taken as an exposition of Otto's thought or as a biography.

But his central purpose is to show that the Christian theologian, because of his "absolute commitment," ought to study "the divine self-disclosure" in other religions if he is to get an adequate apprehension of it in his own; that a better understanding of the categories of "form" and "content" in religion can enable him to disengage the universally-valid from the particular; that the category of "classical forms" can provide him with a principle for selecting what is worth the non-specialist's study. This part is well done, built upon a wide basis of scholarship and of familiarity with the problems of the logic of history.

He concludes by demarcating the tasks of the historian and the theologian. The former, if sensitive to norms immanent in the material, can portray the types of religious expression; his work should be valid (say) for Christian and Moslem equally. Then the Christian theologian, "as the result of an existential decision," will evaluate this work by the standard of Jesus Christ, his person and his teaching (p. 230). But even the theologian must not accept the tradition into which he is born as a mere fate; he must seek for what is true (p. xii). And he can admit that the key—at any rate the handiest, the "classical" key—to some of the problems of his tradition may be found *outside* it.

And the philosopher, whom Professor Wach does not mention? He also is surely committed to try to rise above historicism. Is it possible to write a book (say) on "landscape" but not on "prayer" which shall be true for men of different cultures? This would seem to be a philosophical problem. Some of the modern philosopher's disquisitions e.g., on the concept of mind would be improved by some knowledge of the history of religions. The philosopher's training should be able to assist in that "re-conception" of men's religious activities (Hocking) which seems needed for mutual understanding. We in this country do not seem to have brought forth philosophers, such as Pratt, Hocking and Northrop in the United States, who have devoted themselves to this task. The philosopher should be steeped in and grateful for his tradition, yet not "committed" to it, as the Church theologian is. Is there really only "historical truth" and "Christian truth" on these matters, as Professor Wach implies?

Though at least one essay was written in German, the book reads well and is agreeably produced.

C. W. H. Sutton.

HUME, *Theory of Politics*. Edited by F. WATKINS. (Nelson. 1951. Pp. xxx + 246. Price 7s. 6d.)

This selection from Hume is to be greatly welcomed. His political thought has been largely overlooked, perhaps because it was not concentrated into a single treatise devoted exclusively to the subject. Yet it is full of acute thoughts and worthy of its author. The thorough demolition of the contract theory, the defence of reasoned empirical conservatism, the pioneer attempts towards making political thought into a science, the observations on the working of mixed constitutions, the treatment of justice on utilitarian lines, the ingenious scheme for an ideal commonwealth, the reflections on the liberty of the Press are all of great interest. We may thus unreservedly welcome the work of Mr. Watkins in publishing the first separate collected British edition of Hume's political writings. Nor is it easy to find fault with the selection, which comprises Book III, Parts 1 and 2 of the *Treatise* and those of his essays that deal with general political principles. It seems indeed to be one of the rare cases where it is fairly obvious what should be selected and what omitted. Nor do there seem to be textual questions of much importance. A list of emendations (compiled by Prof. Klibansky) is appended. They are thought to be Hume's own work, but are not of great importance. Under these circumstances the scope for displaying the editor's ability lies mainly in the introduction, and he certainly does display it there. The way in which he brought out the connection between Hume's general philosophy and his politics struck me as very illuminating. Hume's essays themselves should certainly be read by anybody who is interested in the development of political thought.

A. C. EWING.

Eddington's Principle in the Philosophy of Science. By SIR EDMUND WHITTAKER, F.R.S. (Cambridge University Press. 1951. Pp. v + 35. Price 2s. 6d.)

This is easily the best of the five Arthur Stanley Eddington Memorial Lectures which have been delivered since the Foundation was inaugurated in 1947. This is not surprising since Sir Edmund Whittaker is the leading authority on Eddington's "Fundamental Theory." The occasion of the lecture was the annual meeting of the British Association held this year in Edinburgh, and it must have provided one of the high lights of a particularly successful gathering.

Eddington's principle is stated by the author in the following words: *All the quantitative propositions of physics, that is, the exact values of the pure numbers that are constants of science may be deduced by logical reasoning from qualitative assertions, without making any use of quantitative data derived from observation*. As an elementary example of the principle Sir Edmund tells a delightful story of a friend of his who went to read for the Natural Science Tripos after taking the Mathematical Tripos. For his first experiment he was asked to determine π by cutting out a circle and also a square of side equal to the radius of the circle, from some kind of sheet metal, and then weighing them! He protested that mathematicians knew a better way, thereby providing an elementary instance of Eddington's Principle.

This story carries its own moral, which the author discusses at a later stage in his lecture, namely that "the experimenter and Eddington are not talking about quite the same thing." Indeed, confusion on this point lies at the root of much of the controversy which has raged around Eddington's theory, and Sir Edmund has performed a notable service by the clear and careful way in which he discusses this question. In particular, he makes the illuminating

suggestion that the modern practice of renormalizing charge and mass in quantum electrodynamics is a recognition of this kind of distinction. Although Eddington did not live to see this practice, he foresaw that a situation of this kind might arise and "uttered a warning against expecting too close an agreement between his theoretically calculated values and those obtained by measurement."

The lecture is packed with good things and should be read by all who are interested in the philosophy of physical science. In accordance with the general objects of the Foundation, the author concludes by considering Eddington's ideas in their bearing on the philosophy of religion.

G. J. WHITROW.

The Rise of Scientific Philosophy. By HANS REICHENBACH. (University of California Press, 1951: Cambridge University Press, agents. Pp. 333. Price 28s. net.)

There is no doubt that a great deal of light has been thrown on notions such as those of *space*, *time*, and *causality*, by the progress of theoretical physics in the present century; and a book dealing with this new knowledge, by somebody who is competent to write it, is sure of a welcome. Dr. Reichenbach, who is Professor of Philosophy in the University of California, is well qualified both as a logician and as a physicist; and Chapters VIII ("The Nature of Geometry"), IX ("What is Time?"), X ("The Laws of Nature"), and XI ("Are there Atoms?") of the work under review are excellent. They almost suggest a question as to whether anybody should be encouraged to study for an Honours Degree in Philosophy who has not previously taken an Honours Degree in Mathematics and Physics.

Unfortunately the author combines this sound expository work with a great deal of propaganda in support of his views regarding the nature of philosophy itself. He begins by decrying Plato, and then reviews with disfavour the conclusions of Kant, Spinoza, and others. "Philosophical systems," he says (p. 123), "have lost their significance, and their function has been taken over by the philosophy of science." What he advocates is, in his own words (p. 49), "a conception of knowledge which does away with all claims to eternal truth."

Of course, he repudiates everything that has not been derived empirically, and therefore rejects many of the ways by which other philosophers believe they have found eternal truths; and he seems to take for granted that eternal truths cannot be reached by starting from science itself. But is this so? St. Thomas says: "The origin of our knowledge is in the senses, even of those things that transcend sense." What are these things that transcend sense?

The laws of nature as we now know them cannot be called eternal truths, because they are subject to revision. Newton's formula for gravitation was replaced by Einstein's, and the classical theories of light were superseded by quantum-mechanical conceptions. But although the laws that have been so far discovered are imperfect, every man of science believes that they are approximations to a system of laws of nature which really *are* eternal truths: the fact that we have not yet completely discovered them does not shake our belief that they exist. And although such knowledge as we have of the laws of nature is derived from our sense-interaction with the material world, the system of eternal truth to which they lead differs altogether from the material world in status: the material world began, so far as we know, only two or three thousand million years ago, and it will, so far as we can see, run down like a clock and end in a state in which no life is possible; but the

eternal truths are unaffected by these happenings. The material world is transitory: the laws of nature are eternal.

Of course, this is only one kind of eternal truth; but when a single eternal truth is admitted, the existence of others can be established without difficulty.

Professor Reichenbach devotes a chapter to Ethics, and it is here that the absence of eternal truths in his system shows itself in its most disastrous consequences. If a man of science were impelled by the sexual urge to seduce his secretary, nothing in the "scientific philosophy" would have power to stop him.

The man of greatest achievements in pure science who has devoted himself to philosophy in the present century has been Alfred North Whitehead, and he saw much that lies beyond the somewhat myopic vision of Professor Reichenbach. "Metaphysical truths," said Whitehead, "are truths about the nature of God."

EDMUND WHITTAKER.

David Hume, his Theory of Knowledge and Morality. By D. G. C. MACNABB. (Hutchinson's University Library. Pp. 208. Price 7s. 6d.)

Mr. MacNabb's aim was to "clarify and make alive the new discoveries of the Treatise, and show their connexion with problems still vexing to-day," and he has succeeded to a remarkable extent. He has packed into this short book a stimulating discussion of almost all the most important features of Hume's philosophy. The book meets an obvious need in providing for beginners a terse and readable synopsis, but also contains much to interest teachers as well as students. MacNabb's approach to Hume is sympathetic and constructive. Where he cannot rebut Hume's critics, he usually suggests how Hume should or could have amended his theories. For example, he gives a more than usually plausible version of Hume's account of belief, by stressing Hume's references to "steadiness' rather than to "vividness", and his defence of Hume's ethical theory is skilful, especially his method of countering C. L. Stevenson's criticism that Hume made the dubious assumption that if all differences in their factual beliefs were removed everyone would agree in their moral attitudes (pp. 193–6).

Sometimes MacNabb is not as careful as one might wish in distinguishing between what Hume did and what he should maintain. For example, in discussing the distinction between "impressions" and "ideas," MacNabb claims (p. 26) that what Hume *really had in mind* was not the distinction between sensations and images, but one between "the given" (including images) and what we think about the given. This is obviously questionable, and MacNabb is scarcely consistent, for in interpreting some of Hume's arguments he reminds the reader that by "idea" Hume meant image (e.g. p. 72 and p. 86). Sometimes MacNabb's argument is too compressed to be followed easily by the uninitiated, notably in the chapter on "Bodies," where MacNabb attempts not only to convey the gist of Price's interpretation of Hume, but to restate and criticize the case for Phenomenalism.

The section on "Self-consciousness and personal identity" is not satisfactory. MacNabb ignores Hume's argument that our notion of personal identity is due to the smooth progress of the imagination along a series of ideas connected by resemblance and causation. As a result he seems to miss the point in his discussion of the predicament described in the Appendix, when Hume acknowledged that he could not account for the unity of our successive perceptions. Concerning this predicament, MacNabb writes—"the connexion which Hume maintains that we never find between distinct existences is

logically necessary connexion. But this is plainly not the sort of connexion we require to explain the unity of consciousness. . . . The only question is what relation does in fact unite perceptions in one consciousness? Hume rightly sees that it cannot be similarity, causation or local or temporary conjunction" (p. 149). The solution which MacNabb suggests for Hume is not, however (as the above quotation implies), to invoke a single new relation to unite perceptions, but is to say that the relations required are "not merely similarity, causation and spatial and temporal conjunction, but also co-presentation" (p. 150). MacNabb ascribes Hume's predicament to his failure to recognize co-presentation as an empirically given relation. This is a surprising argument, for—

(i) Surely what troubled Hume when he wrote the Appendix was not the fact that his different perceptions were not *logically* connected, but was his full realization of the paradoxes (e.g. the infinite regress) which resulted from applying his analysis of causal connection to his earlier conclusion "that the true idea of the human mind, is to consider it a system of different perceptions . . . which are linked together by cause and effect, and mutually produce, destroy, influence, and modify each other" (*Treatise*, Everyman Ed., vol. 1, p. 247).

(ii) By "co-presentation" MacNabb *seems* to mean a relation between two or more perceptions consisting in their being simultaneously presented to the same mind or person. It is very doubtful whether Hume could accept the suggestion that this is an empirical relation which he had overlooked, but in any case it would avail him little. Its use would only enable him to account for the unity *within* each momentary state of mind. But the difficulty as Hume saw it was "to explain the principles that unite our *successive* perceptions." It is odd that MacNabb does not mention the relevance of memory to Hume's problem. To be fair, we must record that MacNabb admits dissatisfaction with what he has written on this topic. C. W. K. MUNDLE.

Homo Viator. By GABRIEL MARCEL. Translated by Emma Craufurd (Victor Gollancz Ltd. 1951. Pp. 270. Price 16s. net.)

This work contains a number of lectures and articles written during the last war. The first seven are metaphysical reflections on such subjects as "the ego and its relation to others," hope, "the mystery of the family," "obedience and fidelity," and "value and im(mortality)." Perhaps the most important of these is the essay on hope, which is entitled "Sketch of a Phenomenology and a Metaphysic of Hope." There follow two critical or polemical essays, the first, entitled "Being and Nothingness," dealing with M. Sartre's *L'Être et le Néant*, the second, on "the Refusal of Salvation and the Exaltation of the Man of Absurdity," being a discussion of the views of M. Bataille and M. Camus. The work concludes with two interesting lectures on "Rilke: a Witness to the Spiritual."

In his metaphysical reflections M. Marcel's method is to give a phenomenological analysis of, say, hope or fidelity, distinguishing pseudo-forms from the genuine form and drawing attention to the latter's essential characteristics. This is, however, only part of his method. For at the same time he develops the metaphysical implications of the experience or phenomenon under discussion. But it is important to understand that when M. Marcel speaks of connections and implications in this field, he does not refer to logical deduction. To attempt to apply deductive methods in metaphysics is equivalent to "the unlawful transposition into the metaphysical order of a requirement which

only has value and meaning in certain definite departments of scientific thought." Nor, when he tries, for example, to show the connection between love or fidelity and the affirmation of immortality, does he mean that the exhibiting of the connection constitutes a "proof" of personal immortality, in the sense that failure to see its rational cogency depends simply on shortcomings in logical acumen. But though it is comparatively easy to say what M. Marcel does not mean, it is not so easy, for me at least, to say exactly what he does mean. Perhaps, however, I may venture the following interpretation of his thought.

If a man understands by love, for instance, only what M. Sartre seems to understand by it, or if a man adopts a radical nihilism in regard to all values, one can try by means of various considerations to persuade him that his position does not do justice to the realities of human experience and the essential characteristics of the human person, though if he remains obstinately entrenched in his position one has no purely theoretical argument at one's disposal whereby one can open his eyes or broaden his horizon. If, however, a man knows and values the love-relationship in its highest forms, reflection can show him that unless he is prepared to devalue what he values and to declare it doomed to frustration he must go on to assert both the deathless character of the bond and also the existence of the infinite Being who is, in the author's words, "the guarantee of the union which holds us together." Now, this sounds to me like a wider and less rigid version of the Kantian postulate-theory; and the fact that an analogy between the two versions occurs to me makes me doubtful whether I have understood M. Marcel correctly. For in his preface he rejects an affinity between his position and that of Kant on the ground that the Kantian postulates "only have to do with pure subjectivity, considered, as far as this is possible, apart from the conditions of its insertion in concrete experience." For my own part, I think that there is a great deal more in Kant's postulate-theory than is suggested by his rather obstinate attempt to force the three Critiques into one symmetrical mould; and it is possible that my detection of an affinity between Kant's position and that of the author is due simply to my interpretation of Kant. I think that M. Marcel would say that the man who has the experience of pure love or hope or fidelity has entered into the realm of "Being" as contrasted with that of "Having," and that reflective analysis of what it means to be a "person," participating in this metaphysical realm, discloses certain relations to other persons and to the "absolute Thou." Even here, however, there is a certain affinity with Kant's position, unless, of course, one wished to interpret Kant (as I am sure M. Marcel does not) in the sense of a cheap pragmatism or of Vaihinger's "as if" philosophy. However, whether there is an affinity with Kant or not, M. Marcel's position is somewhat obscure and elusive, I think. It is open to him to say that the sort of preciseness which I am asking for is not attainable in this sphere, and that one has no right to demand of metaphysics that it should resemble mathematics. I think that this is true; and I am certainly not suggesting that the elusiveness of the author's thought deprives it of all value and significance. At the risk of appearing silly, I am prepared to say that I am confident that there is something here which *can* be said, though I am not at all sure how it ought to be said. The retort may be made that if I do not know how something ought to be said I cannot know that there is anything to be said. I very much doubt whether this really follows; but I should agree that clarification of thought and language should be pushed as far as possible. And I think that it might possibly be pushed further than M. Marcel has hitherto pushed it, though I should not care to dogmatize on this matter.

When he advances to the attack, we see a different aspect of M. Marcel. In his excellent essay on M. Sartre he does not hesitate to speak of "these obscure formulae which border on pure nonsense," though he evidently respects M. Sartre's undoubted gifts as writer and philosopher. With M. Bataille the author is extremely incisive and outspoken. We find statements like: "We do not yet get away from tautology"; "it is alarming to see how quickly the steadiest thought can immediately drift into grandiloquent nonsense"; "when someone describes an experience of pure ecstasy to me, I neither have nor can have any way of telling whether his account is accurate or not"; "it seems evident to me that M. Bataille's book is dripping with self-complacency." I do not quote these statements in order to drag in criticism of M. Bataille but simply in order to counterbalance what I have said about the elusiveness of M. Marcel's metaphysical reflections by showing that he certainly has a concern for language. He does not favour "grandiloquent nonsense"; and he cannot abide what seems to him to be affected posing. Even of Kierkegaard he says that "we discern a smirk, we feel at times that he is grimacing; the fictitious characters he chooses as a disguise do not mind assuming a falsetto voice." Indeed, no one who has had the privilege of meeting M. Marcel would expect him to show any sympathy for apparent posing or insincerity. And in the course of his own independent reflections he makes it perfectly clear that he is well aware of the objections and difficulties which naturally occur to the reader.

FREDERICK C. COPLESTON.

Galeni Compendium Timaei Platonis, aliorumque dialogorum synopsis quae extant fragmenta: ediderunt P. Kraus et R. Walzer. (*Plato Arabus*, vol. I: London, Warburg Institute. 1951. Pp. xii + 118 + 68. Price £2 7s. 6d.)

The achievement of the Islamic world in preserving the heritage of Greek philosophy, and the extent to which it may be said to have given back that heritage to Europe when Europe was ready for it, are matters which have only recently begun to receive systematic consideration and appraisal. There is indeed already an impressive list of pioneer workers: one thinks at once (to mention only some no longer living) of Steinschneider or Margoliouth, or nearer our own time of Goldziher, Bergstraesser, Meyerhof, Asin Palacios, Kraus, and the indefatigable Bouyges whose recent death has inflicted a heavy blow on these studies. But the apparatus necessary for such an appraisal is far from being available yet. The scholarship of the subject is in its first youth, and many essential texts still lurk as manuscripts in Eastern mosques or Western libraries, awaiting the attention of the few scholars who combine a knowledge of Arabic with a background of Greek philosophy and language. Only these can edit and explain them adequately. As yet we have not even a full glossary of Arabic philosophical terms, which find no adequate treatment in the dictionaries.

What is perhaps becoming clearer, as a result of the studies of men like Dr. Walzer himself, is that no one can adequately set about the task unless he develops an interest in Islamic philosophy for its own sake. To regard the Arabic texts solely as a quarry for fossilized fragments of Greek authors will not, even for the Hellenist, produce the best results. Arabic texts and commentaries do not present a renaissance of the philosophies of the fifth and fourth centuries B.C., but rather a smooth continuation of the tradition current in eastern Greek lands at the time of the Arab conquest. When they speak of Plato, they are more likely to mean the Neoplatonism of Antioch or Alexandria. Aristotle was seen as the author of a rigid dogmatic system rather

than the living and often tentative thinker that he was, and attempts to reconcile his thought with Plato's were made easier by the fact that he was known primarily from Neoplatonic handbooks and epitomes, or from representatives of Syrian Christian churches. The Moslems themselves in interpreting the Greek tradition were not acting from purely historical motives. The sudden impact of Greek rationalism on a people hitherto without philosophy set them urgently seeking solutions to problems of their own day and faith, debating the proper relations between reason and revelation, the place of philosophy within the framework of Koranic theology. This clash of traditions exercised the minds of Al-Kindī in the ninth century and Al-Fārābī in the tenth, and they paved the way for their more famous successors Avicenna and Averroes. Al-Kindī enjoyed the patronage of the enlightened 'Abbāsid Caliphs who in his time created at Bagdad a brilliant school of translators to provide the material for study, mostly Syrian Christians who were allowed to retain their faith. By Al-Fārābī's time an orthodox reaction had set in against the intellectualist Mu'tazilite school of theologians. Metaphysics was discouraged as dangerous and subversive, which is perhaps hardly surprising. Al-Fārābī himself, though remaining a devout Moslem, must often have seemed to his contemporaries to be exalting reason at the expense of the traditional religion.[1]

Even a cursory study of these contemporary movements suggests that we shall not understand the Arabic contribution to the interpretation of Graek philosophy unless we are prepared to accept the impact of Islam as marking a new stage in the history of human thought. Only so can we assess even their achievement as interpreters and transmitters, and our own obligations to them as the present heirs of Hellenism. It is not so much that they translated and preserved classics of Greek thought which would otherwise have been lost. In fact much the same material was being recovered by Western Europe from Constantinople as filtered in during the same centuries through the Arabic versions. As Steinschneider put it long ago, the Renaissance may take the credit for having opened up the Greek sources directly to the learned world, but the "learned world" would not have existed, nor would anyone have bothered about such matters, if the Middle Ages had not kept an interest in Greek studies alive; and the medieval discussions and translations were largely made possible by the efforts of the Arabic-speaking world.

This is not to say that the search for actual new Greek material in Arabic translations or independent writings is a fruitless one. We may not be able to hope for a dialogue of Aristotle or a complete treatise of Democritus. But later philosophical writings, including lost commentaries on, and epitomes of, Plato and Aristotle we certainly find, and we are also rewarded by the discovery of fragments or quotations many of which still call, as they did in Steinschneider's day, for the attention of classical scholars. While many actual translations of named Greek authors await publication, the methods of *Quellenkritik* remain practically untried, though it is almost certain that a large amount of purely Greek writing could be extracted by scholarly application from commentaries of Al-Fārābī or Averroes.[2]

The work of which Dr. Walzer has just given us an exemplary edition illustrates well the complex kind of contribution to the history of thought which we may expect from Arabic texts. It is a version of an epitome of Plato's *Timaeus* written by Galen and no longer extant in the Greek original, followed by three short fragments from epitomes of other Platonic dialogues.

[1] Cf. R. Walzer, "The Rise of Islamic Philosophy", in *Oriens*, III, 1 (June 1950).
[2] Compare e.g. pages 2–3 of the work under review, and D. M. Dunlop in *Iraq*, vol. xiii (1951), p. 78.

The translation acquires a certain colour from such superficial but striking features as that the name of the *demiurgos* of Plato is commonly followed by the formula of blessing appropriate to Allah, and the inferior gods are rendered "angels" (*malā'ikat*). Beneath this Moslem stratum lies the stratum of the Platonism of the second century A.D. represented by Galen, who not only summarizes but also amplifies and illustrates from his own point of view, adapting Plato to contemporary doctrines. He writes as one familiar with Aristotle's fourfold scheme of causation, and appears to attempt, in the manner of Middle Platonism, a reconciliation of Academic with Peripatetic doctrine, trying to bring the Ideas into relation with the Aristotelian conception of form. We can also see how Galen interpreted Plato's views on such questions as the generation of the world in time, the motion of the earth, the separability of mind and the mortality of the other parts of the soul. In places, on the other hand, he quotes Plato word for word, and sufficiently accurately to make clear what text he had before him.

A note at the head of one of the two manuscripts of our Arabic version leads us to hope that it is the work of that prince of translators, Ḥunain b. Isḥāq (d. 873), a man with a good knowledge of Greek and a scholarly conscience. But internal evidence shows conclusively that it was made from a Syriac intermediary (which Ḥunain would not have used), and the editors show beyond reasonable doubt that what we have is an Arabic version made by a pupil of Ḥunain's named 'Īsā b. Yaḥyā b. Ibrāhīm (who knew no Greek) from a Syriac translation of his master's.

Criticism of the edition must observe the limitations of the reviewer, in this case one whose acquaintance with the Arabic tongue is little more than a year old. I can only say that, from my viewpoint on the threshold of this domain of thought, it seemed to give exactly what was wanted. An introduction in four sections deals (i) with Galen's epitome, its place as part of a larger undertaking, and Galen's methods of work, (ii) with the identity of Galen's translators, (iii) with their methods, the sort of mistakes to be expected, the virtues and vices of Syriac and Arabic as vehicles for the expression of Greek words and ideas, (iv) with the two Istanbul manuscripts in which the translation is preserved. Then we are presented with the Arabic text and a Latin translation. (The whole edition is in Latin.) To the text are appended textual notes and others briefly indicating mistakes, additions or omissions on the part of the medieval translators, and beneath the Latin we find notes on the subject-matter, parallel quotations from the *Timaeus* and illustrative material from Galen himself and other relevant works such as the *Didaskalikos* of Albinus. Lastly (a feature whose value can hardly be exaggerated) the edition includes full Arabic–Greek and Greek–Arabic vocabularies.

The work is the second to be published in the series *Plato Arabus*, part of the *Corpus Platonicum Medii Aevi* planned by Professor Klibansky. Begun in collaboration with P. Kraus, who died during the War, it has been completed by Dr. Walzer. May it have successors as good as itself.

W. K. C. Guthrie.

A Treatise on Induction and Probability. By Georg Henrik von Wright. (Routledge and Kegan Paul Ltd. 1951. Pp. 310. 30s. net.)

In the preface to this book (which is dated December 1948) Professor von Wright says that his purpose is "to examine, in the light of standards of logical correctness, various types of argument which can be grouped together under the common heading of induction." But he goes on to explain that he

is not concerned with scientific practice. "The more insight I have acquired into the subject matter of my investigation," he writes, "the more I have been compelled to narrow the range and relevance of my exposition in order to secure it upon a solid foundation. . . . In this book I have been mainly concerned with making arguments clear. The problem to what extent the arguments have the power to illuminate by reconstruction the actual procedure of science is, on the whole, not discussed. . . . I hope to be able later to compensate for this narrowness, and I am anxious to dissociate myself from any claims to an all-embracing and unrestricted applicability of my ideas for the purpose of understanding the nature of scientific thought."

In his first chapter Professor von Wright delimits his field of inquiry by distinguishing it from the problem of discovery (i.e. whether there can be an *ars inventiva veritatum*) and from the problem of justification. While he agrees in general with those who say it is impossible to give rules for discovery, he quotes with approval a remark of Picard that "*il ne faut pas exagérer le mystère ni faire de l'invention un miracle*," and asserts that the subject can be studied profitably in a phenomenological fashion. In his discussion of philosophical questions about the justification of induction he recapitulates briefly the considerations which he put forward some years ago in *The Logical Problem of Induction* but concludes: "It is not unplausible to assume that some of the intellectual discomfort traditionally associated with the Problem of Hume has been nourished by attempts to establish a guarantee of predictive success on non-inductive premisses without a full awareness of the fact that a 'guarantee' cannot then mean the same as a demonstration. In so far as clarity on this important point can make the discomfort vanish, it would not be inappropriate to talk of a solution to the Problem of Hume attained through an analysis of the meaning of 'justification.'"

The second chapter contains a summary of the apparatus of formal logic which is to be used in the work of reconstruction, and the third chapter shows how inductive arguments are to be formulated in precise fashion. According to Professor von Wright the conclusion of an inductive inference (in the sense which interests him) is a universal implication or equivalence, i.e. a proposition to the effect that one property is a sufficient or a necessary and sufficient condition of another. Although he constantly uses the language of properties and sometimes says that one property is included in another, it is clear from his explanations that he is thinking all the time of extensional relations between the classes determined by properties. And in this connection it is perhaps worth noticing that when he talks of the existence of a property he means what would ordinarily be called the existence of something which exemplifies it or the fact that the class it determines is not empty. Statistical laws are a special case, since they involve the additional notion of the numbering of the instances of a property according to some rule; but he tells us that they too can be brought within the general account given above, since a statement of limiting frequency is a universal proposition of a complicated kind. Although he stresses the fact that statistical laws, conceived as statements of limiting frequency, can never be conclusively refuted, he does not deal here with the objections which mathematicians have brought against the use of their convergence concept outside the realm of pure mathematics.

After these preliminaries come three chapters on what Professor von Wright calls the logic of inductive truth, i.e. that part of his subject which can be discussed without reference to probability. The first contains a very detailed reconstruction of the methods of elimination. This is in the tradition of Bacon, Mill, and Keynes, but it is complicated by the inclusion of sums and products of properties among the initially possible conditions and by consideration of

the number of steps required for the attainment of absolutely total elimination or absolutely perfect analogy. Professor von Wright does not attempt to show by examples that his reconstructed methods can be used in science, but he suggests cautiously that what he has proved about them may be of some value to those who are concerned with the design of experiments. In his next chapter he tries to formulate the supplementary premisses (a deterministic postulate and a selection postulate) which would be required to make such arguments demonstrative; but he maintains that it is idle to try to establish them independently of the several inductive conclusions which they are sometimes supposed to support. The last chapter of this group deals with the relation which induction has to the formation of concepts and the rectification of laws. It also contains a useful summary of the historical development of the logical of inductive truth.

Most of Chapter VII is devoted to an axiomatic development of the calculus or probability. In the preliminary explanations the symbol "$P\,(A, H, p)$" is introduced as an abbreviation for "There is a probability p that a random thing has the property A on the evidence that it has the property H," but the calculus is developed in completely abstract fashion up to the inverse principle of great numbers and the principle of succession—apart from the purely arithmetical parts of the arguments, which are omitted as being readily accessible in many text-books. The purpose of the axiomatic presentation is, of course, to make clear the logical structure of the various principles and their relationships. In particular, Professor von Wright shows that, while an inverse theorem of great numbers can be proved by the use of Bayes's principle, this theorem is *not* about the probability of a probability (i.e. not in any strict sense an inversion of Bernoulli's limit theorem). This prepares the way for the argument of Chapter X, where he defends the theory of inverse probability against the attacks of R. A. Fisher and other critics, but admits at the same time that it cannot provide a rationale of inductive argument because the conditions which it presupposes are not those in which scientists commonly make inferences from samples.

In the last sections of Chapter VII Professor von Wright considers attempts to interpret the calculus of probability in terms of frequency, possibility, or degrees of belief. Although he does not commit himself to any of these as the sole correct interpretation of his formalism, it is clear that he has not much respect for the third suggestion and includes it only for the sake of completing his survey. And of the frequency interpretation he writes (p. 221): "Those authors who insist on a frequency analysis of probability throughout seem to me to be victims of a tendency to assimilate *all* cases of probability to a pattern which provides an analysis in *some* cases. This assimilation is possible, since no findings of experience can ever contradict a proposition about a limiting frequency. But the assimilation ceases to be useful or illuminating so soon as it tries to explain extensional probability in terms of long-run frequency." By "extensional probability" he means here probability as we talk of it in probability propositions which cannot be certified on formal grounds alone. He refuses, however, to go further in judgment on the merits of the analyses which have been offered, and concludes the chapter by writing: "The question of the analysis of probability in the sense of the problem, how we may come to know the truth-value of probability propositions, will not concern us further."

Chapter VIII deals with probability and prediction, i.e. with what some theorists have called the problem of application. In ordinary life we often speak of the probability of an individual's having a certain property, and when we talk in this way, it seems that we mean probability in relation to

all the relevant information. In order to justify the usage Professor von Wright introduces the notion of a *chance*, explaining that the probability of A on evidence H is to be called (in his sense) the chance that the positive instance x of H will be a positive instance of A if x has no property G (other than one entailing or excluding A) such that the probability of A on evidence H and G is different from the probability of A on evidence H alone. He then tries to show that this notion illuminates the distinction between a mere relative frequency and a relative frequency in a *random* sequence, between a ratio of mere possibilities and a ratio of *equal* possibilities, or between a mere degree of belief and a *rational* degree of belief. I have found it difficult to follow his argument here, because it does not seem to me correct to say that previous theorists have talked of random distribution, equal possibilities, or rational belief in order to provide for chance in some sense which is *less fundamental* than ordinary probability. The randomness of von Mises is connected with the insensitivity of a limiting frequency to *place selection*, and is not supposed to exclude all possibility of selecting a sub-sequence in which the probability of the interesting property is different from that in the main sequence. Moreover, von Mises explicitly says that he can attach no precise sense to statements about the probability of an individual's having a certain property. Similarly possibility theorists talk of the equality of possibilities *before* they introduce probability fractions of any kind, because otherwise they would not be entitled to talk of measurement at all. Thus Wittgenstein (whom Professor von Wright mentions on p. 168) thought he was able to give an account of probability fractions because he had already assumed the equipossibility of certain alternatives as a consequence of his doctrine of the mutual independence of atomic propositions. What the belief theorists mean by their use of the word "rational" I cannot say, but I should be surprised if they accepted the interpretation which Professor von Wright offers them, since irrationality can be shown in other ways than by ignoring part of the relevant evidence in an individual case (e.g. by sheer muddle, such as that of a gambler who waits for the "maturity of the chances"). It may well be, however, that I have failed to understand the connections which Professor von Wright tries to establish in this chapter.

In Chapter IX he goes on to deal with the probability of suggestions of law, which he calls real inductive probability to distinguish it from the probability of predictions. After a brief survey of the various views which have been held or might be held about the relation of this concept to the ordinary concept of probability (i.e. that used in games of chance), he comes to the conclusion that, while it is possible to bring them both into a frequency theory, the concept of real inductive probability is useless in practice because it is *logically impossible* to give numerical estimates of the probability of laws. He argues, however, that in spite of their uselessness arguments about inductive probability deserve examination and reconstruction for the sake of mental hygiene: reconstruction can show us, for example, how to dispose of the so called paradox of confirmation and can also dispel the illusion that induction by enumeration has a value independent of that belonging to induction by elimination. In his own words, talk of "the increasing probability of a law is merely another expression of the trivial fact that, as the number of possible alternative laws decreases through elimination, the proportion of true laws increases" (p. 254). It will be seen from this quotation that although he professes to use a frequency interpretation of inductive probability in this part of his work, the frequency he has in mind must be a proportion in a finite population, that is to say, a ratio which could equally well be described as a proportion of equipossible alternatives. It is to be noticed also that inductive

probability, as he understands it, has no application to hypotheses such as the theory of relativity.

Chapter X deals with the questions about inverse probability mentioned in an earlier paragraph of this review, but contains also a final section on the historical development of the logic of inductive probability.

In this summary of the contents of Professor von Wright's book I have not been able to do justice to his very close and detailed arguments and in particular to the arguments of the chapters on elimination and the axiomatics of probability. Any reader who goes through the book carefully must be impressed by the remarkable thoroughness with which the author carries out his task. But a reader who hopes for philosophical illumination, as distinct from the formal reconstruction of arguments, may be disappointed by the author's deliberate avoidance of topics which he wishes to have discussed. Sometimes we can gather from short references what view Professor von Wright favours on some large philosophical issue, but in general he keeps rigidly to the programme expounded in the preface and the first chapter. At the end we feel that he has given us an extremely good course of preparation for a philosophical inquiry about induction and probability, but has not answered all our questions or even convinced us that they are muddles. Perhaps he was wise to follow this modest plan; for much philosophical discussion of the last twenty years has been bedevilled by slipshod use of logical jargon on the one hand and by facile appeals to ordinary language on the other. But it is to be hoped that he will carry out the project at which he hints in his preface and write another work in which the results of this are summarized and used explicitly for the resolution of philosophical perplexities.

WILLIAM KNEALE.

Aristotle's Syllogistic from the Standpoint of Modern Formal Logic. By JAN ŁUKASIEWICZ. (Oxford: Clarendon Press. 1951. Pp. xi + 141. 15s.)

All who are interested in the history of logic know of the great service Professor Łukasiewicz had done in directing attention to features of ancient and medieval logic that were undervalued by philosophers of the past three centuries. But those of us who cannot read Polish have been unable to study his work at first hand, except for two or three papers he wrote in German during the thirties. This little book in English on Aristotle's syllogistic is therefore sure of a warm welcome. In 1939 Professor Łukasiewicz prepared a monograph on the subject in Polish, but the printed proof, the type, the manuscript, and all his books were destroyed by bombing in September of that year, and it was not until he had settled in Dublin after the war that he could resume his work. The present publication is based on lectures delivered in 1949 at the invitation of University College, Dublin. The subject is the theory of pure (or non-modal) syllogisms contained in the *Prior Analytics* I, 1, 2, and 4–7. In the first three chapters this is considered historically, and in the last two it is presented systematically in Professor Łukasiewicz's own symbolism, together with an appropriate decision procedure.

The following are some points of interest in the historical portion. In Chapter I Professor Łukasiewicz draws attention to the fact that Aristotle stated the principle of each mood in a conditional formula with variables, and says that when Aristotle spoke of necessity in this connection he intended simply to emphasize the truth of the formula for all those values of the variables which he had in mind, i.e. for all general terms that are not empty. According to Professor Łukasiewicz, Aristotle excluded singular terms from consideration because he wanted to have a theory of the relations between

terms each of which can occupy either the subject or the predicate place in a proposition. Professor Łukasiewicz remarks also that, though Aristotle's logic was formal in the sense of abstracting from all special subject-matter, it was not, like the later propositional logic of the Stoics and the logical systems of modern times, formalistic in the sense of dealing always with fixed patterns of expression. In Chapter II he discusses among other things the faulty terminology of "major" and "minor" and the history of the controversy about the fourth figure. In particular he claims to have found the source of the tradition which attributes the introduction of the fourth figure to Galen. According to a scholium preserved in a manuscript of Ammonius and published by Wallies in 1899, Galen distinguished in his *Apodeictic* four kinds of *compound* syllogisms (i.e. arguments with four terms in three premisses); and although the scholiast is clear enough in the distinction he draws between Galen's subject and that of Aristotle, it seems possible that his attribution of three figures to Aristotle and four to Galen was misunderstood by some hasty reader, with the result we know in the traditional presentation of logic. Chapter III deals with Aristotle's proof of his theses by conversion, the argument *ad impossibile*, and ecthesis, and also with his methods for the rejection of invalid formulae. Professor Łukasiewicz argues that Aristotle's theory of reduction is really a programme of derivation from axioms, namely from the principles of *Barbara* and *Celarent* and the laws of conversion.

In the systematic part of his work Professor Łukasiewicz reformulates the whole doctrine of syllogistic in his own symbolism and presents it as a deductive system. English readers will be glad to find his own version of the calculus of propositions given here as a necessary preliminary. This has three axioms formulated in terms of negation and material implication. The first is the well-known principle of transitivity for material implication; but the second is the *consequentia mirabilis*, "If if not-p then p, then p," which Clavius noticed in Euclid's *Elements* IX, 12; and the third is the equally remarkable thesis "If p, then if not-p then q," which occurs first in the *Exactissimae Quaestiones* attributed to Duns Scotus. It is perhaps a little too much honour to Clavius and Duns Scotus to give their names to the two principles, as Professor Łukasiewicz has done, since the *consequentia mirabilis* was recognized already by the Stoics and the attribution of the *Exactissimae Quaestiones* to Duns Scotus is at least very doubtful.

After the principles of propositional logic come four special axioms of syllogistic, namely, two "axioms of identity," "*Aaa*" and "*Iaa*," and the principles of *Barbara* and *Datisi*. The first special axiom means in English that every a is a, and the second that some a is a. The purpose of the second is, of course, to exclude empty terms. From his seven axioms Professor Łukasiewicz deduces first the laws of conversion and subordination and then the principles of the twenty-two valid moods other than *Barbara* and *Datisi*. The result may be described as a deductive theory of the relations expressed by A and I. For these two letters are the only primitive signs required in addition to the material implication sign and the negation sign of propositional logic. But the system determined by the four special axioms is not categorical in Veblen's sense, that is to say, it admits of different interpretations which are not isomorphic. If, for example, we make "*Iab*" equivalent to "*Aab* or *Aba*," all the laws of the system are verified, but so, too, are some formulae which would be false on the ordinary interpretation. In order to make sure that the system admits only formulae which are true on the ordinary interpretation, we must complete the set of rules and axioms by some provision for the rejection of formulae hitherto undecidable. This is the problem of the last chapter, and Professor Łukasiewicz solves it by use of a rule of rejection

invented by his pupil Słupecki. In effect the rule provides that when we have rejected two conditional formulae with simple negative antecedents and the same consequent we must also reject the conditional formula which has that consequent again but with an antecedent which is the conjunction of the other antecedents. The argument is too complicated to summarize here, but it proceeds by reduction to expressions of the form "If α_1 then if α_2 then . . . if α_{n-1} then α_n", where all the α's are simple expressions of the syllogistic, i.e. expressions of the type "*Aab*" or "*Iab*" or negations of these. Professor Łukasiewicz calls the resultant formulae elementary expressions: we might perhaps say that they are in implicative normal form. The completed system admits an arithmetical interpretation of Aristotle's syllogistic devised by Leibniz in 1679; but this is, of course, no defect, since the arithmetical interpretation is isomorphic with the ordinary interpretation.

This is undoubtedly the most exact treatment of syllogistic that has ever been published, and I think the author has made good his claim that it is radically new. In order to justify Aristotle's doctrine as a whole it is certainly not enough to say, for example, as some modern English logicians have done, that an expression of the form "all X's" is normally taken to have reference, i.e. normally understood in such a way that a statement of the form "All X's are Y" can not properly be said to be either true or false if there are no X's. For (*a*) Aristotle did not use the plural in his formulation of general propositions, and (*b*) unless *all* his terms, including predicates, are supposed to be non-empty, we can still derive paradoxes within his system; e.g. from "No mathematician has squared the circle" we can get "No person who has squared the circle is a mathematician" and from this "Some person who has squared the circle is not a mathematician." But there are two points, one historical and one systematic, which Professor Łukasiewicz might with advantage have allowed himself to discuss more fully.

In the first place, while it is true that Aristotle gave the principle of each syllogistic mood in a conditional formula, it is not quite correct to suggest, as Professor Łukasiewicz seems to do, that traditional logicians were just muddle-headed when they tried to present his doctrine as a theory of inference schemata. For there is after all a great deal to be said in favour of the general policy of presenting logic in that fashion; and Aristotle himself was probably not quite clear about the difference between rules of inference and logical theses. The fact that he thought of indirect reduction as like the proof of the incommensurability of the diagonal with the side of a square (*Prior Analytics* I, 23 = 41^a 26) suggests strongly that he had inference schemata in mind at the moment. For there would be no such analogy if indirect reduction were the proof of the equivalence of two conditional formulae (say that for *Baroco* and that for *Barbara*); but there is some similarity to the classical example of *reductio ad absurdum*, if indirect reduction is supposed to show that according to the principle of a certain mood (say *Barbara*) anyone who asserts the premisses for a syllogism in another mood (say *Baroco*) together with the negation of the conclusion in that mood is committed to a self-contradiction. Professor Łukasiewicz comes near to admitting this in his section on *reductio ad impossibile*, but the general impression which he leaves is that Aristotle was trying to do something like what he himself does in Chapter IV. It would be useful to have some more general discussion of the relations between rules of inference and logical theses.

Secondly, in order to make his book more valuable as an introduction to modern formal logic Professor Łukasiewicz might have said more about the relation of syllogistic to the modern calculus of propositional functions. It seems very strange—almost a contradiction in terms—to say that syllogistic

is not part of formal logic. Yet, as he himself insists (p. 130), the system which he presents is not a general theory of classes or predicates but something "apart from other deductive systems, having its own axiomatic and its own problems." The difficulty is concerned with the status of his second axiom of identity "*Iaa.*" We cannot call this a truth of logic unless we are prepared to recognize a special *logical* category of non-empty terms and provide for it explicitly in our rules of substitution. The way in which Professor Łukasiewicz treats the formula suggests that he himself thinks of it as a restrictive postulate like those which are said to give implicit definitions of the primitive signs in geometry. On the other hand, for all formulae of his system which do not entail this second axiom it is possible to find analogues in the symbolism of *Principia Mathematica* which everyone will admit as truths of logic. These analogues all begin with an existential condition of the form-

$$(\exists x)\phi x.(\exists y)\psi y.(\exists z)\chi z :\supset$$

though in some the condition is superfluous because the consequent is logically true by itself. The question at issue is really about the use of the word "logic." If we think of logic as concerned with the rules of inference assumed implicitly by ordinary language, we may perhaps say that the syllogistic system presented by Professor Łukasiewicz is the logic of common nouns. For existential import seems to come in with the use of nouns or noun-phrases: consider, for example, the difference between "No mathematician has squared the circle" and "No mathematician is a person who has squared the circle." But is Professor Łukasiewicz content to talk of logic in this way?

The words "major" and "minor" seem to have been transposed by mistake in the last two lines of p. 90.

WILLIAM KNEALE.

Man or Matter, Introduction to a Spiritual Understanding of Nature on the Basis of Goethe's Method of Training Observation and Thought. By ERNST LEHRS, Ph.D. (London: Faber & Faber Ltd. 1951. Pp. 378. Price 30s. net.)

We learn from the history of science that new ideas are usually rejected by the contemporaries of their inventors. They become accepted only gradually as the older men whose interests are threatened by them die off and are replaced by younger men whose work has not yet become fixed along lines which conflict with the new ideas. This lesson should make us cautious in condemning new ideas. At the same time it is by no means easy to separate the sheep from the goats. Being open minded is not enough. We require the penetrating eye which can discern those new ideas which will be fruitful and isolate them from those without promise. The publishers of the above book state on the dust cover that "No MS. submitted to them has ever been the subject of so many and so diverse reports from experts and lay readers. An MS, which can so flutter the dovecotes before publication is something out of the ordinary. Whether the book will be a cat among the pigeons, or a pigeon among the cats, remains to be seen."

To the present reviewer the book does not seem to be anything out of the ordinary, nor is it a cat among the pigeons. It is simply a pigeon which has lost its way and finds itself among the cats through an inability to read the signposts. In other words, it does not seem to be a book of science in the usual sense at all, and the ideas in it are not new.

That what this book offers is not science seems clear from the very first paragraph of the Preface:

"In this book the reader will find expounded a method of investigating

nature by means of which scientific understanding can be carried across the boundaries of the physical-material to the supersensible sources of all natural events, and thereby into the realm where is rooted the true being of man." Few people to-day would recognize in this passage a statement of the aims of modern science. In fact throughout the book there is perpetuated a confusion between science on the one hand and poetry and mysticism on the other. The authorities chiefly admired and quoted by the author are, for the most part, not scientists at all, e.g. Goethe, Rudolf Steiner, Ruskin, Wordsworth, Traherne and Thomas Reid.

The ideas introduced do not appear to be new because the author relies very largely upon resuscitating notions which belong to the dawn of science: such as the earth, air, fire and water of early speculation, and the salt, sulphur and mercury of the alchemists. A great part is played by polar opposites: fire-water, air-earth, moist-dry, cold-warm. In addition to gravity we also have levity. Alternative explanations to the current ones are offered in connection with plant form, meteorological phenomena, volcanic eruptions, electrical and magnetic phenomena and vision (Goethe's *Farbenlehre*). All these explanations are most disappointing. Just when we have been worked up to a pitch of hopeful expectation we are confronted with such statements as the following:

> "Certain portions of matter are caused to move by the movement of adjacent portions of matter. The picture changes when we look for the cause to which the muscles owe their movements. For the motion of the muscles is not the effect of any cause external to them, but is effected by the purely spiritual energy of our volition working directly into the physical substance of the muscles" (p. 150).

The author calls this "magical causation." He makes no mention of the nervous system in this context. In fact, his notions about neurology are very peculiar as we can see from the statement (p. 261): "The very fact that the place where the optic nerve enters the eye is blind indicates that the function of mediating sight cannot be ascribed to the nerve alone." On p. 159 the author asks:

> "What is it in the nature of bones that makes them accessible to mechanical causation only, and what is it in the muscles that allows our will to rouse them magically?"

His answer will illustrate the author's idea of what constitutes a scientific explanation:

> "Bones and muscles stand in a definite genetic relationship to each other, the bones being, in relation to the muscles, a late product of organic development. This holds good equally for everything which in the body of living nature takes the form of mineralized deposits or coverings. Every kind of organism consists in its early stages entirely of living substance; in the course of time a part of the organism separates off and passes over into a more or less mineralized condition. Seen in this light, the distinction between bones and muscles is that the bones have evolved out of a condition in which the muscles persist, though to a gradually waning degree, throughout the lifetime of the body. The substance of the muscles, remaining more or less 'young' stands at the opposite pole from the 'aged' substance of the bones. Hence it depends on the 'age' of a piece of matter whether it responds to magical or mechanical causation" (p. 159).

As an example of the use of polar opposites the following (p. 200) will serve:

"It needs no further explanation to realize that sulphur and phosphorus, by the way in which levity and gravity are interlinked in each of them, are representatives of these very qualities 'moist' and 'dry.' As such they are universally active bearers of these qualities in every realm of nature's varied activities, as their physical presence in such cases confirms. Consequently, sulphur is found in the protein-substances of the human body wherever they are bearers of metabolic processes, while the presence of phosphorus is characteristic of nerves and bones."

The author seems to be very easily satisfied regarding what is to be called a "fact," so long as it is revealed to what he calls "a spiritual understanding of nature." He speaks of "deciphering the signature of the spirit in the phenomena of the sense world," but he seems to have a low opinion of the use of experiment. He thus has no difficulty in accepting such statements as:

"Before man's supersensible part enters into a physical body there is no means of conveying to it experiences other than those of levity, and this condition prevails right through embryonic development. For while the body floats in the mother's foetal fluid it is virtually exempt from the influence of the earth's field of gravity" (pp. 215–16).

The author explains in his introductory Chapter I that he was led to seek his new kind of science by a dissatisfaction with the old. This in turn was occasioned by the first world war, for which he seems to think the old science was in some way responsible. "At a time when humanity was equipped as never before to investigate the order of the universe, and had achieved triumphs of design in mechanical constructions, human life was falling into ever wilder chaos. Why was this?" (p. 20). It is not difficult to understand the author's feelings about these things, but it is extremely difficult to see how what he says about bone and muscle, levity and gravity, dry and moist, etc., will help to improve them. J. H. WOODGER.

Aristotle's "De Anima" with the Commentary of St. Thomas Aquinas. Translated by FR. KENELM FOSTER, O.P., and FR. SYLVESTER HUMPHRIES, O.P. (Routledge. Price £2 2s.)

For the historian of philosophy this is undoubtedly a most useful publication. The influence which Aristotle's *De Anima* has had on the epistemological theories of the schoolmen and, either by derivation or reaction, on later philosophers, needs no emphasizing. That influence was undoubtedly due in no small measure to St. Thomas' Commentary. It was then an admirable notion to combine in one volume the Commentary and the text on which the Commentary was made. The book consists of a very useful introduction by Fr. Ivo Thomas, O.P., partly historical and partly philosophical, a translation of the Latin version of the *De Anima*, made by William of Moerbeke (the one known to St. Thomas), and then the Commentary itself. The subject-matter both of the text and the commentary is divided according to the *Lectiones* of Aquinas himself, not according to the existing chapters of the original.

Whether the volume is equally useful to the philosopher is another question. Whilst for the historian of philosophy it seems desirable to have the text on which Aquinas is known to have commented, rather than the Greek original, when we want to know what Aristotle really meant, if the Greek itself is not available, it seems preferable to have a translation made directly from it. However, presumably those who need a translation either of Aristotle or of St. Thomas are not philosophers *pur sang*. Readers of the volume will

either decide that this sort of thing is not for them or they will want to know what it really is all about, and they will pursue their investigations in other ways. But in either case they will be grateful to Fr. Ivo for his discussion of some difficult passages.

The translation of *intellectus agens* by "agent intellect" may serve to illustrate the doubt one feels about the usefulness of translating at all for the student. Is the term "agent intellect" likely to be understood by anyone not familiar with the original? On the other hand, it must be admitted that no one could be better qualified to make a translation of St. Thomas than members of the Order to which he belonged, men who have preserved the spirit of their great predecessor and the tradition of the technique and method which he so largely developed. T. Corbishley, S.J.

Studies of Type-Images in Poetry, Religion and Philosophy. By Maud Bodkin. (Oxford University Press. 1951. Pp. xii + 184. Price 12s. 6d.)

Miss Bodkin here extends the inquiry pursued in her *Archetypal Patterns in Poetry* to religious and philosophical records. In the preface she admits that her essays are freely ranging in character and it is indeed a faithful description of the book. It comprises loose meditations on religious themes, straying through a range of cloudy ideas and culling bunches of quotations from novelists, playwrights, poets and prophets, on the way. No reader could fail to respect the sincerity and magnanimity of these personal confessions; but the argument is too imprecise to call for discussion in these pages. Miss Bodkin inquires whether there is any criterion by which we can test the different forms of religious imagery. The criterion is found (following Martin Buber) in the ability to know ourselves and others; for sympathy with other persons is the mark of divine reason immanent in the world. The most satisfying religious imagery is the imagery of redemption, of fellowship in human suffering. In the second part she touches on various poetic and religious symbols of divine rebirth; in the third essay she treats discursively of images of wisdom in the ancient and modern world. M. H. Carré.

Books also received:

James K. Feibleman. *Philosophers Lead Sheltered Lives.* (Autobiography.) London: George Allen & Unwin Ltd. 1952. Pp. 321. 25s.

Bernard Mayo. *The Logic of Personality.* London: Jonathan Cape. 1952. Pp. 188. 10s. 6d.

R. Hackforth. *Plato's "Phaedrus."* Translated with Introduction and Commentary. Cambridge University Press. 1952. Pp. vii + 172. 18s.

Max Hamburger. *Morals and Law: the Growth of Aristotle's Legal Theory.* New Haven: Yale University Press. 1952. (London: Geoffrey Cumberlege). 1952. Pp. xxii + 191. 24s.

E. R. Dodds. *The Greeks and the Irrational.* University of California Press. (English agents: Cambridge University Press.) 1951. Pp. x + 327. 37s. 6d.

A. J. Ayer and Raymond Winch (Editors). *British Empirical Philosophers (Locke, Berkeley, Hume, Reid, Mill).* Routledge & Kegan Paul Ltd. 1952. Pp. 560. 25s.

A. L. Basham. *History and Doctrines of the Ajivikas.* London: Luzac & Co. Ltd. 1951. Pp. xvii + 304. £2 2s. 0d.

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ROBERT LAWSON SLATER. *Paradox and Nirvana: A Study of Religious Ultimates with special reference to Burmese Buddhism.* Chicago University Press. (English agents: Cambridge University Press.) 1952. Pp. viii + 145. 30s.

ELI A. ALMI. *The Strange Death of Barukh Spinoza.* Sci-Art Publishers, Cambridge, Mass. Pp. 16. No price stated.

B. K. MALLIK. *Related Multiplicity.* Oxford: Hall the Publisher. 1952. Pp. 258. 30s.

P. R. RAJU. *India's Culture and Her Problems.* Jaipur: University of Rajputana. 1951. Pp. 105. No price stated.

CORLISS LAMONT (Editor). *Man Answers Death: An Anthology of Poetry.* (Introduction by Louis Untermeyer.) New York Philosophical Library. 1952. (Second edition.) Pp. xvi + 330. $4.50.

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NICOLAI HARTMANN. *Teleologisches Denken.* Berlin: Walter de Gruyter & Co. 1951. Pp. 136. Dm. 16.00.

LUIGI BAGOLINI. *La Simpatia nella Morale e nel Diritto: Aspetti del Pensiero di Adam Smith.* Bologna: Cesare Zuffi. 1952. Pp. 119. Lira 800.

INGJALD NISSEN. *Den Betingede Forpliktelse: En Studie over de plikteorier som er fremsatt av David Hume og David Ross.* Oslo: H. Aschebourg. 1952. Pp. 163. No price stated.

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The First International Congress on "Humanism and Ethical Culture" is to be held at Amsterdam, August 21 to 26, 1952.

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The President of the Congress is Dr. Julian Huxley. Persons or groups who wish to join the Congress are invited to write to the Organizing Secretary, Mrs. H. A. Polak-Schwarz, Oranje Nassaulaan 50, Amsterdam-Z., not later than July 15, 1952.

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The lectures next Session (October 1952 to March 1953) will begin at 5.30 p.m. instead of 5.15 p.m. as in former years.

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